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BRITISH
PHÆNOGAMOUS BOTANY,
OR,
FIGURES AND DESCRIPTIONS
OF THE GENERA
OF
BRITISH FLOWERING PLANTS.

BY W. BAXTER, A. L. S. F. H. S. &c.

Curator of the Oxford Botanic Garden.

Author of Stirpes Cryptogamæ Oxonienses.

> There is religion in a flower;
> Its still small voice is as the voice of conscience:
> Mountains and oceans, planets, suns, and systems,
> Bear not the impress of Almighty power
> In characters more legible than those
> Which He has written on the tiniest flower,
> Whose light bell bends beneath the dew-drop's weight.
>
> H. G. BELL.

VOL. II.

OXFORD.
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AND BY WHITTAKER, TREACHER, AND CO. LONDON.
1835.

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CHARLES G. B. DAUBENY, M. D.

FELLOW OF THE ROYAL, LINNEAN, HORTICULTURAL,
AND GEOLOGICAL SOCIETIES OF LONDON;

AND PROFESSOR OF BOTANY AND CHEMISTRY
IN THE UNIVERSITY OF OXFORD;

THIS VOLUME

OF

BRITISH PHÆNOGAMOUS BOTANY,

IS,

WITH HIS PERMISSION,

MOST RESPECTFULLY INSCRIBED,

BY HIS MUCH OBLIGED

AND MOST OBEDIENT SERVANT,

WILLIAM BAXTER.

Botanic Garden, Oxford,
Oct. 17, 1835.

Flowers are the brightest things which earth
On her broad bosom loves to cherish;
Gay they appear as childhood's mirth,
Like fading dreams of hope they perish.

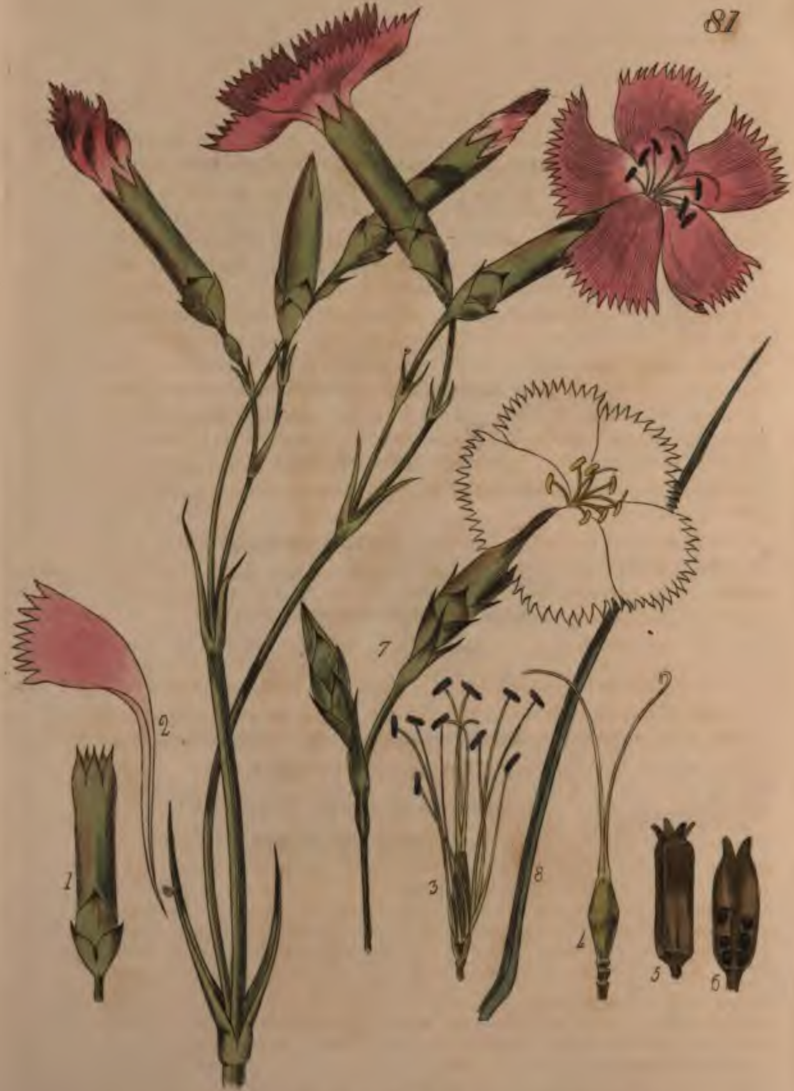
In every clime, in every age,
Mankind have felt their pleasing sway;
And lays to them have decked the page
Of moralist, and minstrel gay.

By them the lover tells his tale,
They can his hopes, his fears express;
The maid, when words or looks would fail,
Can thus a kind return confess.

They wreath the harp at banquets tried,
With them we crown the crested brave;
They deck the maid—adorn the bride—
Or form the chaplets for her grave.

R. Patterson.

81



DIÁNTHUS CARIOPHÝLLUS. *CLOVE PINK* ♃

I.F. del *C.M. sc.*

Pub^{d} by W. Baxter, Botanic Garden, Oxford, [illegible]

DIA'NTHUS*.

Linnean Class and Order. DECA'NDRIA, DIGY'NIA.

Natural Order. CARYOPHY'LLEÆ, *Linn.*—Juss. Gen. Pl. p. 299.—Sm. Gram. of Bot. p. 159.; Lindl. Syn. p 43.; Introd. to Nat. Syst. p. 156.—Rich. by Macgilliv. p. 507.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, tubular, cylindrical, striated, permanent, with 5 teeth at the mouth; and 2, or more, pairs of opposite, imbricated scales or bracteæ at the base. *Corolla* of 5 *petals* (fig. 2.); their claws narrow, angular, as long as the calyx, and attached to the *receptacle;* their limbs flat, dilated towards the summit, blunt, and variously notched. *Filaments* (fig. 3.) 10, awl-shaped, as long as the calyx, or longer; spreading at the top; often more or less combined at the base. *Anthers* egg-oblong, compressed, incumbent. *Germen* (fig. 4.) somewhat stalked, oval. *Styles* (fig. 4.) 2, awl-shaped, longer than the stamens. *Stigmas* recurved, tapering, downy on the upper side. *Capsule* (figs. 5 & 6.) covered by the permanent calyx, cylindrical, of 1 cell, opening with 4 teeth. *Seeds* numerous, roundish, compressed, attached to a central, unconnected, columnar *receptacle* or *placenta.* (See fig. 6.)

Distinguished from *Saponaria,* t. 37, by the scales at the base of the calyx; and from other genera in the same class and order, by the monosepalous (1-sepaled), tubular calyx; the pentapetalous (5-petaled) corolla; and the 1-celled, oblong capsule.

Six species British.

DIA'NTHUS CARYOPHY'LLUS. Clove Pink, or Carnation.

SPEC. CHAR. Leaves smooth edged. Flowers solitary; scales of the calyx almost rhomboid, very short. Petals notched, beardless.

Engl. Bot. t. 214.—Linn. Sp. Pl. p. 587.—Huds. Fl. Angl. (2nd ed.) p. 184.—Sm. Fl. Brit. v. ii. p. 461. Engl. Fl. v. ii. p. 287.—Tran. of Linn. Soc. v. ii. p. 299.—With. (7th ed.) v. ii. p. 539.—Gray's Nat. Arr. v. ii. p. 644.—Lindl. Syn. p. 44.—Hook. Brit. Fl. p. 200.—Relh. Fl. Cant. (3rd ed.) p. 173.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 387.—*Caryophyllus simplex. flore minore, pallide rubente,* Ray's Syn. p. 336.—*Caryophyllus sylvestris simplex,* Johnson's Gerarde, p. 591.

LOCALITIES.—On old ruinous walls.—Very rare.—*Cambridgeshire;* Leverington near Westbeach: Dr. WITHERING. On the walls of Chippenham Park: Rev. R. RELHAN.—*Essex;* Tower on the Wall at East Ham: Mr. DILLWYN, in Bot. Guide.—*Kent;* On Rochester and Deal Castles: Mr. DILLWYN, ibid. and Mr. W. PAMPLIN, jun. On Sandown Castle: Rev. G. E. SMITH.—*Shropshire;* On the walls of Ludlow Castle: Dr. EVANS, in Bot. Guide.—*Yorkshire;* On the walls of Fountains Abbey: Mr. BRUNTON, ibid.—WALES. *Glamorganshire;* On the walls of Cardiff Castle: Dr. TURTON, in Bot. Guide.

Fig. 1. Calyx and Bracteas.—Fig. 2. A Petal.—Fig. 3. The ten Stamens and two Pistils.—Fig. 4. Germen and Pistils.—Fig. 5. Capsule.—Fig. 6. Vertical section of ditto.—Fig. 7. A Flower of a white variety of *D. Caryophyllus.*

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* From *zeus, dios,* Gr. *Jupiter,* and *anthos,* Gr. *a flower;* dedicated as it were to Deity itself; to express the high value that was set upon this charming genus of plants. Dr. HOOKER.

† See *Saponaria officinalis,* p. 37, note †.

Perennial.—Flowers in June and July.

Root rather woody, branching at the crown. *Herbage* of a sea-green colour (glaucous). *Stem* upright, jointed, branched in a panicled manner. *Leaves* strap-shaped, channelled, fasciculated; margins smooth, entire, except just above the base, where they are minutely toothed or fringed. *Flowers* solitary, fragrant, at the top of each branch. *Bracteas (scales at the base of the calyx)* 4, broadly egg-shaped, pointed, not a quarter so long as the tube, the two outermost narrower than the inner ones, which are broader than they are long. *Petals* broad, smooth, varying from a pale flesh-colour to a deep red; their outer edge sharply toothed.

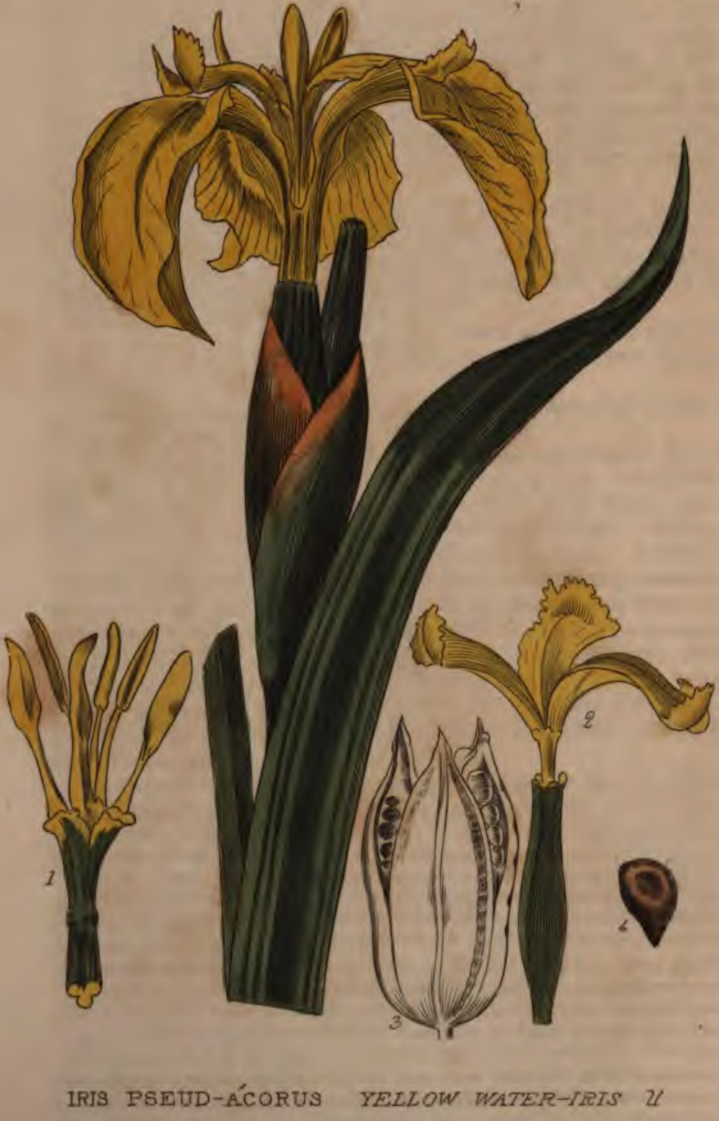
The drawing was made from a plant which flowered in the Oxford Botanic Garden in 1833, and which was, in 1831, presented to that establishment, from an old wall at Rochester Castle, by the Rev. G. E. SMITH, of St. John's College, and author of a "Catalogue of the Plants of South Kent."

The white flowered variety, fig. 7, is from a plant which had, in 1833, established itself on a wall belonging to Mr. WILSON, Porter of Worcester College.

Diánthus Caryophy'llus is the origin of all our beautiful varieties of Garden Carnations.

The common Pheasant's-eye Pink, *Diánthus arenárius* of HUDSON (not of LINNÆUS) has by many Botanists been considered only a variety of the preceding; but the Rev. G. E. SMITH has, and I think very justly, determined it to be specifically different from that species, and has named it *Dianthus Hudsoni.* It differs from *D. Caryophyllus* in the margins of the leaves being minutely serrated, from the base to the point; in the petals being more or less hairy at the disk near the claw; and in their outer margin being more deeply and more irregularly cut. Specimens, and living plants of this species, from Weston-hanger, in Kent, were sent to the Oxford Garden, in October, 1831, by the Rev. G. E. SMITH.—This species is the origin of the Garden Pink, of which there are so many double varieties.

"Gardeners," observes Dr. WITHERING, "well know that from the seed of the Carnation, Pinks are never obtained, nor from that of Pinks can Carnations be procured. In fact these favourite flowers originate from distinct species, and are not mere varieties of the same, as has been erroneously, and even recently, intimated. The art of floriculture, sometimes despised with a reprehensible degree of fastidiousness, has in this instance transformed a plant comparatively obscure, into one of the most delightful charms which the lap of Flora contains. The surprising metamorphoses which the most indifferent are accustomed to contemplate with pleasure, were probably commenced beneath a more genial sky than that of Britain; for we learn from Pliny, that these productions were unknown to the Greeks, and equally so to the Romans until the Augustan age, when they were obtained from the brave Biscayans, as one trophy resulting from the conquest of that province, and were thence called Cantabrica. Our gardens may now receive embellishments from more than 300 different kinds of Carnations, under the denomination of Flakes, Bizarres, and Picotees (Picquettes, spotted); and these may be propagated by cuttings, but more succesfully by layers about the month of July. Surely floriculture must at least be deemed an innocent amusement; and that which could excite the admiration of the most powerful intellect cannot be altogether insignificant." *Botannical Arrangement*, v. ii. p. 539.



IRIS PSEUD-ÁCORUS YELLOW WATER-IRIS ♃

W.A.D. del. C.M. sc.

Pub.d by W.Baxter Botanic Garden, Oxford 1834

IRIS*.

Linnean Class and Order. TRIA'NDRIA †, MONOGY'NIA.

Natural Order. IRI'DEÆ, *Dr. R. Brown.*—Lindl. Syn. p. 254.; Introd. to Nat. Syst. p. 260.—Rich. by Macgilliv. p. 408.—Loud. Hort. Brit. p. 137.—IRIDES, Juss. Gen. Pl. p. 57.—Sm. Gr. of Bot. p. 76.—ENSATÆ, Ker in Annals of Bot. v. i. p. 219.

GEN. CHAR. *Calyx* an inferior *spatha* or *sheath* ‡, of 2 leafy valves. *Corolla (Perianthium* §*)* superior, in 6 segments; the 3 outer (sepals of *Lindl.*) largest, rounded, reflexed, opposite to, and applied underneath the stigmas; sometimes hairy above; the 3 inner segments (petals of *Lindl.*) upright, narrow; all united by a firm thick base, (see fig. 1.). *Filaments* 3, awl-shaped, opposite the larger segments. *Anthers* oblong, straight, depressed. *Germen* (fig. 2.) inferior, oblong, 3-furrowed. *Style* (fig. 2.) simple, very short. *Stigmas* 3, equal, very large, and resembling petals (see fig. 2.); keeled on the upper, furrowed on the under side, leaning on the stamens, 2-lipped, upper lip cloven, upright, lower lip very small notched at the end. *Capsule* angular (fig. 3.), of 3 cells, and 3 valves. *Seeds* (fig. 4.) numerous, 2-ranked, globular, or angular from pressure.

The Corolla of 6 deep unequal segments, alternately reflexed; and the 2-lipped, petal-like stigmas, will distinguish this from other genera, with a superior corolla, in the same class and order.

Two species British.

IRIS PSEUD-ACORUS. Yellow Water-Iris. Corn-Flag; or Fleur-de-Luce.

SPEC. CHAR. Leaves sword-shaped. Corolla beardless; its inner segments smaller than the stigmas. Seeds angular.

Eng. Bot. t. 578.—Curt. Fl. Lond. t. 197.—Linn. Sp. Pl. p. 56.—Huds. Fl. Angl. (2nd edit.) p. 14.—Woodv. Med. Bot. v. i. p. 114. t. 40.—Sm. Fl. Brit. v. i. p. 41.—Engl. Fl. v. i. p. 48.—With. (7th ed.) v. ii. p. 96.—Lindl. Syn. p. 255.—Hook. Br. Fl. p. 18.—Light. Fl. Scot. v. i. p. 86.—Sibth. Fl. Oxon. p. 21.—Abbot's Fl. Bedf. p. 9.—Purt. Midl. Fl. v. i. p. 60. & v. iii. p. 337.—Relh. Fl. Cant. (3rd ed.) p. 19.—Hook. Fl. Scot. p. 16.—Grev. Fl. Edin. p. 9.—Fl. Devon. pp. 6 & 130.—Johnston's Fl. of Berwick, v. i. p. 14.—Mack. Catal. of Pl. of Irel. p. 10.—Walk. Fl. of Oxf. p. 11.—Babington's Fl. Bath. p. 50.—*Iris palustris*, Gray's Nat. Arr. v. ii. p. 196.—*Iris palustris lutea*, Ray's Syn. p. 374.—Johnson's Gerarde, p. 50.

LOCALITIES.—In wet meadows and ditches, and on the margins of pools and rivers; frequent.

Perennial.—Flowers in June and July.

Root large, horizontal, brown on the outside, reddish within, very astringent, sending down from the lower part many long whitish fibres. *Stems* from 2 to 4 feet high, upright, somewhat zig-zag, round, and smooth. *Leaves* upright, in two opposite rows, clasp-

---

Fig. 1. The 3 inner Petals, the 3 Stamens, and the upper part of the Germen.—Fig. 2. The Germen, Style, and 3 large, petal-like Stigmas.—Fig. 3. The Capsule.—Fig. 4. A Seed.

* From the brilliancy of its colours, and the graceful curve of its petals emulating the arch of *Iris*, or the rainbow. Dr. WITHERING.

† See pp. 45 & 56, note †.

‡ From *sphathe*, Gr. *a sheath*, a species of membranous calyx, which bursts longitudinally, and is remote from the flower.

§ See p. 33, note ‡.

ing each other by their compressed base (equitant), sword-shaped, ribbed, grass-green. *Valves* of the *spatha* or *sheath* spear-shaped. *Flowers* upright, showy,of a yellow colour, the 3 outer and larger *petals* reflexed, their disk pencilled with dark purple.

" Those," says Mr. CURTIS, " who have examined the structure of the flowers of this plant, must allow it to be at once beautiful, delicate, and singularly curious; the stigma (fig. 2.) in particular deserves to be noticed by the student, being in form and substance more like the petals than the part it really is[*]."

The juice of the fresh root is excessively acrid, and has been found to act as an aperient, after other powerful means have failed; the dose is 80 drops every hour or two, but being very violent in its operation, it might prove a dangerous remedy in incautious hands, but when mixed with milk, it is said to act in the mildest manner. The fresh roots have been mixed with the food of swine bitten by a mad dog, and they escaped the disease, when others bitten by the same dog died raving mad. The root loses most of its acrimony by drying. Mr. LIGHTFOOT informs us, in his Flora Scotica, that in *Arran*, and some other of the Western Isles, the roots are used to dye black ; and that in *Jura* they are boiled with copperas to make Ink. A slice of the fresh root, held between the teeth removes some kinds of tooth-ache.

LINNÆUS asserts this plant to be decidedly injurious to all cattle, except goats. Mr. W. SKRIMSHIRE has discovered that the seeds of this *Iris* afford an excellent substitute for foreign coffee; and that being roasted in the same manner, they are extremely wholesome and nutritious in proportion of half an ounce or an ounce to a pint of boiling water.

A variety of *Iris Pseud-acorus* with a white flower is said in Ray's Synopsis, to have been observed by Mr. DALE, a Physician, and an excellent botanist; of Braintree, in Essex.

The Natural Order IRI'DEÆ is composed of *Monocotyledonous*, generally *herbaceous* plants, whose *roots* are either tuberous or fibrous. Their *stems* are round or compressed ; their *leaves* are flat,sword-shaped, equitant, and two-ranked, except in crocus. Their *inflorescence* is various, being spiked, corymbose, panicled, or crowded. Their *flowers*, which are often very large, and most of them extremely beautiful, are enveloped, previous to their expansion, in a membranous, thin, or scariose *spatha*. Their *perianthium* (*corolla* of SM.) is superior, in six parts, which are either partially cohering, or entirely separate, sometimes irregular, the 3 inner (petals) being sometimes very short. Their *stamens*, which are always 3, arise from the base of the outer segments (sepals) ; *filaments* distinct or united (monadelphous) ; *anthers* fixed by their base, 2-celled, bursting externally lengthwise. The *ovarium* is 3-celled, cells many-seeded; *style* 1; *stigmas* 3, often petaloid (petal-like), sometimes 2-lipped. The *capsule* is 3-celled, and 3-valved, with a loculicidal dehiscence, (i. e. the dissepiments or partitions are situated on the middle of the inner surface of the valves). The *seeds* are attached to the inner angle of the cell, or sometimes to a central column, becoming loose; their *embryo* undivided, and placed in a fleshy or horny *albumen*. See *Lindley's Synopsis*, and *Richard by Macgillivray*.—The only British Genera which belong to this *order* are *Iris*, *Trichonema*, and *Crocus;* but it comprehends a great many exotic genera, amongst which are some of the most beautiful productions of the vegetable kingdom, and which, from their easy culture, have become universal favourites in our gardens.

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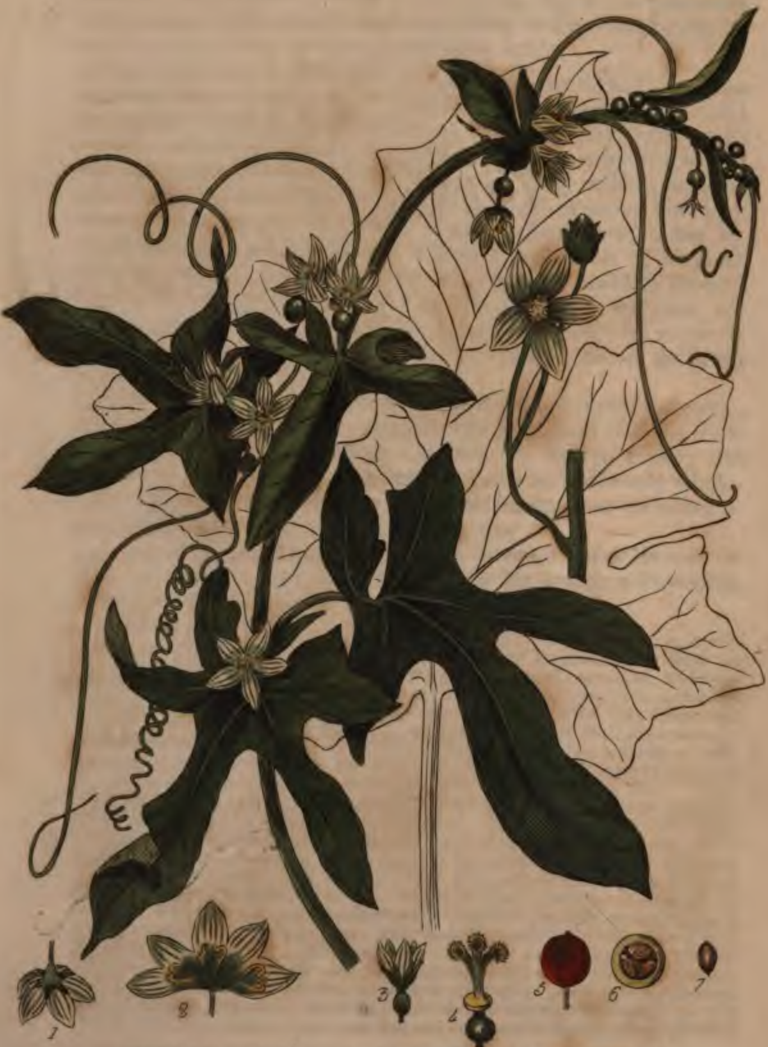
[*] A very curious account of the agency of insects in promoting the fertilization of the different species of *Iris* may be seen in that very entertaining and instructive work, Kirby and Spence's " Introduction to Entomology, or Elements of the Natural History of Insects," vol. i. p. 293. ; and in Dr. WITHERING's Bot. Arr. v. ii. p. 96.



BRYÓNIA DIOÍCA *RED BERRIED BRYONY* ♃

W.A.D. del *sc*

Pub^d. by W. Baxter, Botanic Garden, OXFORD 1834.

(83.)

BRYO'NIA *.

Linnean Class and Order. MONŒ'CIA †, PENTA'NDRIA.

Natural Order. CUCURBITA'CEÆ, *Linn.*—Juss. Gen. Pl. p. 393.—Sm. Gram. of Bot. p. 186.—Lindl. Syn. p. 319.;—Introd. to Nat. Syst. p. 192.—Rich. by Macgilliv. p. 517.—Loud. Hort. Brit. p. 515.

GEN. CHAR. *Barren flower*, *Calyx* (see fig. 1.) of 1 sepal or leaf, bell-shaped, with 5 pointed teeth. *Corolla* (figs. 1 and 2.) connected with the calyx, bell-shaped, in 5 deep, egg-shaped, spreading segments. *Filaments* (see fig. 2.) 3, short. *Anthers* 5; 2 together on 2 of the filaments; the fifth solitary on the third filament. *Fertile Flower* on the same, or a separate plant. *Calyx* and *Corolla* as in the *barren flower*. *Germen* (figs. 3 & 4.) inferior. *Style* (fig. 4.) 3-cleft, shorter than the corolla. *Stigmas* cloven, spreading. *Berry* (figs. 5 and 6.) more or less globular, smooth, and even, of 2 or more cells. *Seeds* (fig. 7.) in pairs, roundish, or somewhat angular, attached to the rind.

The 5-toothed calyx; 5-cleft corolla; 3 filaments and 5 anthers of the barren flower; the trifid style, and globose, many-seeded, inferior berry of the fertile one; will distinguish this from other genera in the same class and order.

One species British.

BRYO'NIA DIOICA. Red-berried Bryony. Wild Vine. Tetter-berry.

SPEC. CHAR. Leaves palmate (hand-shaped), rough on both sides, with callous points. Barren and fertile flowers on separate plants.

Eng. Bot. t. 439.—Sm. Fl. Brit. v. iii. p. 1019. Eng. Fl. v. iv. p. 138.—With. (7th ed.) v. ii. p. 92.—Lindl. Syn. p. 319.—Hook. Brit. Fl. p. 404.—Sibth. Fl. Oxon. p. 82.—Abbot's Fl. Bedf. p. 217.—Relh. Fl. Cant. (3rd ed.) p. 413.—Hook. Fl. Scot. p. 272.—Walk. Fl. of Oxf. p. 278.—Fl. Bath, p. 16.—*Bryónia alba*, Ray's Syn. p. 261.—Johnson's Gerarde, p. 869.—Huds. Fl. Angl. p. 437.—Lightf. Fl. Scot. v. ii. p. 590.—Woodv. Med. Bot. v. iii. p. 517. t. 189.—*Bryónia ruderális*, Gray's Nat. Arr. v. ii. p. 551.

LOCALITIES.—In woods and hedges. Common in many parts of England. Rare in Scotland.

Perennial.—Flowers from May to September.

Root very large, fleshy, white, and branched. *Stems* herbaceous, annual, rough, leafy, slender, slightly branched, climbing by their tendrils to a considerable height, often to the tops of hedges, and even trees. *Leaves* alternate, on round hairy petioles (leaf-stalks), 3 or 4 inches broad, deeply 5-lobed, rough all over with minute callous tubercles. *Tendrils* axillary, simple, often twining first one

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Fig. 1. Calyx and Corolla of a barren flower.—Fig. 2. Corolla of a barren flower cut open, to show the 5 stamens.—Fig. 3. Calyx and Corolla of a fertile flower.—Fig. 4. Germen, Style, and Stigmas of ditto, a little magnified.—Fig. 5. A Berry.—Fig. 6. A transverse section of ditto.—Fig. 7. A Seed.

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* From *bruo*, Gr. *to shoot or grow rapidly*, in allusion to the quick growth of the stems. DR. HOOKER.

† From *monos*, Gr. *one*, and *oicia*, Gr. a *house;* the 21st class in the Linnean Artificial System; comprehending those plants which have stamens only in one flower, and a pistil, or pistils, only in another, but both kinds of flowers growing on the same plant.

way and then the contrary. *Flowers* in axillary bunches, all barren on one plant, all fertile on another, contrary to the other species of this genus which have the two kinds of flowers on the same plant, and are therefore placed in the class *monœcia* of the Linnean system. *Calyx* of the barren flower (fig. 1.) bell-shaped, and deeply divided into 5 narrow pointed segments. *Corolla* (fig. 2.) of a yellowish white colour, with green veins, in 5 egg-shaped, spreading segments. *Filaments* 3, very short, 2 of them with 2 anthers each, and one with a single anther. The *Calyx* and *Corolla* of the fertile flower (fig. 3.) resemble those of the barren one, but are smaller. *Germen* round. *Style* (fig. 4.) strong, upright, the length of the corolla. *Stigmas* 3, spreading. *Berry* red, smooth, fetid when bruised, containing from 3 to 6 seeds. Sir J. E. SMITH says, " the true *Bryonia alba* of LINNÆUS, found on the Continent, has black fruit; being called *alba* from its white *root*, in contradistinction to *Tamus*, the black-rooted Bryony."

The root of the Red-berried Bryony is purgative and acrid; a dram of it in substance, or half an ounce of it infused in wine, is a full dose. Dr. THORNTON, in his Family Herbal, says that as an external application, he has seen great good result in cases of gout, rheumatism, and paralytic affections. The root is scraped with a knife, and the scrapings, which feel like soap, are to be rubbed over the affected parts once a day. Immediately a sense of tingling is felt, like the sting of nettles, which soon goes off: and this mild rubefacient, Dr. THORNTON informs us, he has found also do good in cases of asthma and pleuretic affections, rubbed over the chest. A decoction made with one pound of the fresh root is the best drastic for horned cattle. It is now thrown out of our Dispensatory, but Dr. WITHERING is of opinion that the active virtues of this plant seem to give it a claim to more attention than is now bestowed upon it. The root, which frequently grows to a very large size, is sometimes formed into the human figure, by means of the continued application of a mould to the root while it is yet growing, and sold for the real mandrake *(A'tropa mandra'gora)*.

Goats, according to LINNÆUS's observations, eat this plant, but Horses, Cows, Sheep, and Swine refuse it.

The Natural Order CUCURBITA'CEÆ is composed of herbaceous, monopetalous, dicotyledonous plants, with annual or perennial, fibrous or tuberous *roots*, succulent *stems*, climbing by means of tendrils; and alternate, petiolated, more or less lobed leaves, which are covered with numerous asperities. Their *flowers* are usually monœcious, rarely diœcious, or still more rarely united. Their *calyx* is 5-toothed, sometimes obsolete. Their *corolla* is 5-parted, scarcely distinguishable from the calyx, very cellular, with strongly marked reticulated veins, sometimes fringed. Their *stamens*, which are 5 in number, are either distinct, or united in 3 parcels, their anthers 2-celled, strap-shaped, and bent upon themselves, something like the letter S placed horizontally, with its branches very close. The *ovary (germen)* is inferior, 1-celled, with 3 parietal placentæ; a short *style*, and very thick, velvety or fringed *stigmas*. The *fruit* is fleshy, more or less succulent, crowned by the scar of the calyx, 1-celled, with 3 parietal placentæ (partitions). The seeds are flat, egg-shaped, and enveloped in an arillus, which is either juicy, or dry and membranous; their *testa* is coriaceous, and often thick at the margin; their *embryo* flat, and destitute of *albumen;* their *cotyledons* are foliaceous and veined; and their *radicle* is next the hilum.

Bryónia is the only British example of this order, but it contains several exotic genera, some species of which are used in medicine; and a few which are cultivated in our gardens as articles of food, as the *melon*, the *cucumber*, the *gourd*, the *squash*, or *vegetable marrow*, &c.

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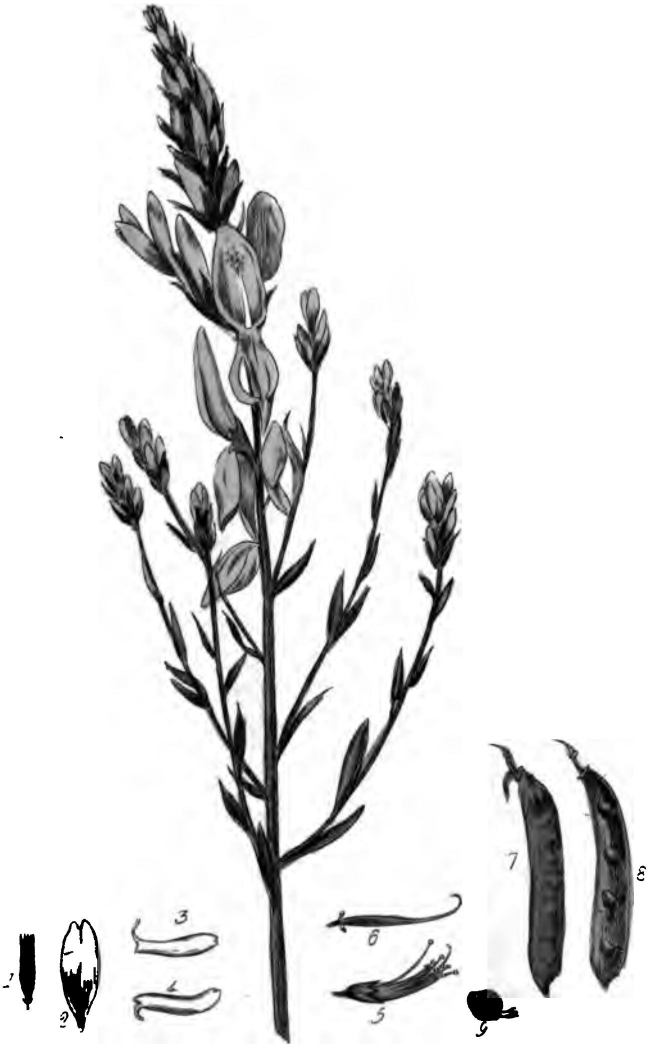

GENÍSTA TINCTÓRIA. *DYER'S GREEN-WEED* I.

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Pubd by W. Baxter, Botanic Garden, Oxford. 1834

GENI'STA *.

Linnean Class and Order. DIADE'LPHIA†, DECA'NDRIA.

Natural Order. LEGUMINO'SÆ, Juss. Gen. Pl. p. 345.—Sm. Gr. of Bot. p. 174.—Lindl. Syn. p. 75.—Introd. to Nat. Syst. p. 87.—Rich. by Macgilliv. p. 532.—Sm. Engl. Fl. v. iii. p. 259.—Loud. Hort. Brit. p. 509.—PAPILIONA'CEÆ of Linnæus.

GEN. CHAR. *Calyx* (fig. 1.) inferior, tubular, of 1 sepal; 2-lipped; upper lip in 2 deep segments; lower lip with 3 teeth. *Corolla* of 5 petals; standard (fig. 2.) oblong, ascending, very distant from the rest; wings (fig. 3.) oblong, spreading; keel of 2 petals, oblong, straight, slightly cohering by their lower edges. *Filaments* (fig. 5.) 10, in 2 sets, though more or less united at the bottom; the odd one awl-shaped, separated more than half way down. *Anthers* small, roundish. *Germen* (fig. 6.) oblong, compressed. *Style* awl-shaped, ascending, deciduous. *Stigma* terminal, simple, or slightly capitate. *Legume* (figs. 7 and 8.) flat, compressed, or rather turgid, oblong, or roundish, obliquely pointed, of 1 cell and 2 concave valves, subtended by the permanent curved base of the style. *Seeds* (fig. 9.) several, roundish, or somewhat quadrangular.

The *filaments* in 2 sets united at the base; the *pistil* depressing the keel; the terminal somewhat capitate *stigma;* the turgid *Legume;* and the reflexed *standard;* will distinguish this from other genera in the same class and order.

Three species British.

GENI'STA TINCTO'RIA. Dyer's Green-weed. Wood-waxen.

SPEC. CHAR. Branches round, striated, upright, without thorns. Leaves spear-shaped, smooth. Legumes smooth, nearly cylindrical.

Engl. Bot. t. 44.—Linn. Sp. Pl. p. 998.—Huds. Fl. Angl. (2nd ed.) p. 311.—Sm. Fl. Brit. v. ii. p. 754. Engl. Fl. v. iii. p. 263.—With. (7th ed.) v. iii. p. 829.—Gray's Nat. Arr. v. ii. p. 595.—Lindl. Syn. p. 77.—Hook. Brit. Fl. p. 319.—Lightf. Fl. Scot. v. i. p 384.—Sibth. Fl. Oxon. p. 219.—Abbot's Fl. Bedf. p. 153.—Purt. Midl. Fl. v. i. p. 332.—Relh. Fl. Cant. (3rd ed.) p. 288.—Curt. Brit. Entom. t. 313!—Hook. Fl. Scot. p. 211.—Grev. Fl. Edin. p. 154.—Johnston's Fl. of Berwick, v. i. p. 158.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 152.—Walker's Fl. of Oxf. p. 204.—Perry's Pl. Varic. Selectæ, p. 60.—Bab. Fl. Bath. p. 11.—Mack. Cat. of Plants of Ireland, p. 65.—*Genistella tinctoria,* Ray's Syn. p. 474.—Johnson's Gerarde, p. 1316.

LOCALITIES.—In rough pastures, thickets, and the dry borders of fields. Frequent in most counties in England; and in the Lowlands of Scotland. It is very uncommon in the vicinity of Oxford; I have only seen it in Headington Copse, near Marston Lane; and near some old stone-pits about half a mile south-west of South Hinksey, and there only a few scattered plants; but on a common near the Canal on the left hand side of the road going from Upper Heyford to Somerton, about 14 miles from Oxford, it grows in great abundance.

Fig. 1. Calyx.—Fig. 2. Standard.—Fig. 3. One of the Wings.—Fig. 4. The Keel.—Fig. 5. The Calyx and Stamens.—Fig. 6. The Germen.—Fig. 7. The Legume.—Fig. 8. The inner side of one of the valves of the Legume, showing the seeds.

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* From *gen*, a *shrub*, in Celtic. Dr. HOOKER.

† See *Spártium scopárium*, p. 77, note †.

A Shrub.—Flowers in July and August.

Root woody, creeping widely. *Stems* many, one or two feet high, slender, smooth, leafy, between round and angular, branched. *Leaves* simple, scattered, nearly sessile, spear-shaped, of a deep shining green : mostly smooth, but sometimes having a few hairs at the edges and underneath. *Flowers* on short axillary stalks, forming a kind of leafy spike at the summit of the branches. *Calyx* (fig. 1.) smooth, angular, deeply 5-cleft, with a pair of small awl-shaped *bracteas* near its base. *Petals* of a uniform bright yellow ; standard (vexillum) (fig. 2.) oblong, blunt, with a shallow notch at the summit, wings (fig. 3.) oblong; keel (fig. 4.) compressed. *Stigma* a little knob. Odd *stamen* very deeply separated, (see fig. 5.) *Legume* (figs. 7 and 8.) smooth, somewhat compressed, and containing several *seeds.*

The whole plant affords the dyer a good yellow colour, and with Woad *(Isatis tinctoria)* a good green. When Cows feed on it, their milk, and the butter or cheese made from it, are said to be very bitter. Dr. WITHERING says, that a dram and a half of the powdered seeds is mildly laxative; and that a decoction of the plant is sometimes diuretic, and therefore has proved serviceable in dropsical cases. A salt prepared from the ashes is recommended in the same disorder. It is esteemed in Russia as a cure for hydrophobia. The author of that interesting and very popular work, "the Journal of a Naturalist," informs us that this plant " is seldom eaten by cattle, except in cases of great necessity, and remains untouched, if other food be obtainable, giving a deceitful appearance of verdure to a naked pasture."—" I know not," says the same writer, " any use to which it is applicable but for the dyer. Our poorer people a few years ago used to collect it by cart loads about the month of July; and the season of 'woodwaxen' was a little harvest to them : but it interfered greatly with our hay-making. Women could gain each about 2 shillings a day, clear of all expenses, by gathering it; but they complained that it was a very hard and laborious occupation, the plant being drawn up by the roots, which are strongly interwoven in the soil. The use of this dyer's broom is to prepare woollen cloths for the reception of another colour. It communicates to the article a dull yellow, which will then, by being dipped into another liquor, or composition, according to the shade required, receive a green hue. Vegetable filaments, cotton, flax, &c., are very differently formed from those threads afforded by animals, as silk and wool, and are differently disposed to receive colours. The dye, that will give a fine colour to the one, is perhaps rejected by the other; and this plant is rarely or never used by the dyer for cotton articles."

A very curious insect, *Centrotus Genistæ* of Curt. Brit. Entomol. t. 313, is sometimes found upon this plant.

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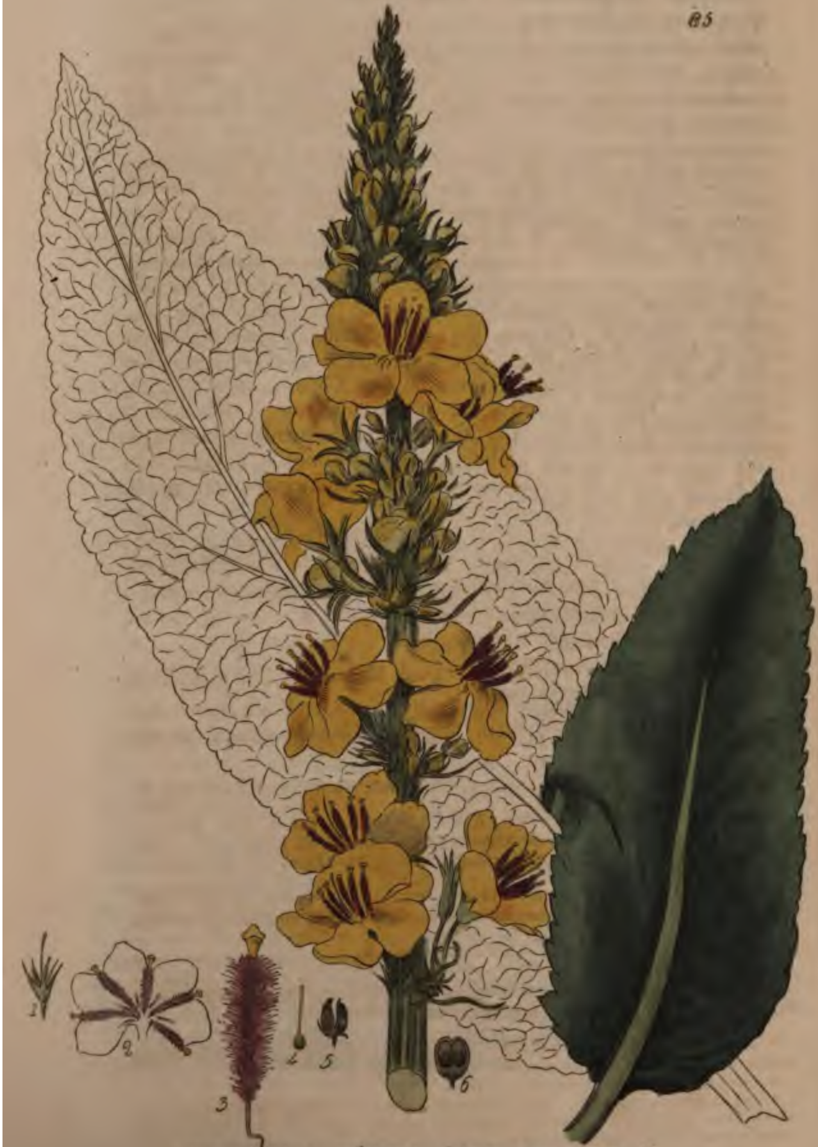

VERBÁSCUM NÍGRUM. *DARK MULLEIN.* ♃

J.R. del. C. Mathews sc.

Pub^{d} by W. Baxter Botanic Garden Oxford 1834.

VERBA'SCUM[*].

Linnean Class and Order. PENTA'NDRIA[†], MONOGY'NIA.

Natural Order. SOLA'NEÆ, Juss. Gen. Pl. p. 124.—Sm. Gram. of Bot. p. 101. Engl. Fl. v. i. p. 307.—Lindl. Syn. p. 180; Introduct. to Nat. Syst. p. 231.—Rich. by Macgilliv. p. 435.—Loud. Hort. Brit. p. 527.

GEN. CHAR. *Calyx* (fig. 1.) inferior, small, of 1 sepal, in 5 deep, upright, sharp-pointed, nearly equal segments, permanent. *Corolla* (fig. 2.) of 1 petal, wheel-shaped, unequal; tube cylindrical, very short; limb spreading, in 5 deep, rounded segments. *Filaments* (fig. 3.) 5, awl-shaped, unequal, declining, almost always woolly at the base, shorter than the corolla, inserted into its base. *Anthers* kidney-shaped, compressed, bursting along the upper edge, imperfectly 2-celled. *Germen* (fig. 4.) superior, roundish. *Style* (fig. 4.) thread-shaped, slightly swelling upwards, declining, rather longer than the stamens. *Stigma* blunt. *Capsule* (figs. 5 & 6.) egg-shaped, slightly compressed, or roundish, of 2 cells and 2 valves, opening at the top; partition double, frequently incomplete. *Receptacle* egg-shaped or globular, central, connected at each side, in an early state, with the valves. *Seeds* numerous, very small, angular, dotted, covering the receptacle.

The wheel-shaped, irregular *corolla;* 2-celled *capsule;* blunt *stigma;* and declining *stamens;* will distinguish this from other genera with a monopetalous, inferior corolla, and numerous covered seeds, in the same class and order.

Six species British.

VERBA'SCUM NIGRUM[‡]. Dark Mullein[§]. Black Mullein.

SPEC. CHAR. Leaves oblong-heart-shaped, stalked, waved and crenate, slightly downy; Stem angular; Cluster spiked, mostly solitary.

Eng. Bot. t. 59.—Hook. Fl. Lond. t. 103.—Linn. Sp. Pl. p. 253.—Huds. Fl. Angl. (2nd ed.) p. 90.—Sm. Fl. Brit. v. i. p. 251. Eng. Fl. v. i. p. 311.—With. (7th ed.) v. ii. p. 313.—Gray's Nat. Arr. v. ii. p. 328.—Lindl. Syn. p. 181.—Hook. Brit. Fl. p. 95.—Sibth. Fl. Oxon. p. 77.—Abbot's Fl. Bedf. p. 50.—Purt. Midl. Fl. v. i. p. 125.—Relh. Fl. Cant. (3rd ed.) p. 94.—Hook. Fl. Scot. p. 78.—Grev. Fl. Edin. p. 53.—Fl. Devon. pp. 40 & 150.—Johns. Fl. of Berwick. v. i. p. 59.—Walk. Fl. of Oxf. p. 61.—Perry's Pl. Varvic. Selectæ, p. 20.—Johnson's Gerarde, p. 775.—*Verbascum nigrum flore parvo, apicibus purpureis,* Ray's Syn. p. 288.

Fig 1. Calyx and Pistil.—Fig. 2. Corolla and Stamens.—Fig. 3. A Stamen magnified, to show the bearded filament.—Fig. 4. Germen, Style, and Stigma.—Fig. 5. Capsule.—Fig. 6. A Capsule cut transversely.

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[*] Altered from *Barbascum,* from *Barba,* a *beard,* in allusion to the shaggy nature of the foliage in most species. Dr. HOOKER.

[†] See *Anchusa Sempervirens,* p. 48.

[‡] Dr. MARTYN observes, " it is pity that LINNÆUS adopted its common name of *nigrum* or *black* as a trivial, because it tends to mislead, for it has nothing black about it, the leaves being only dark-coloured, in comparison with some other species, as *Thápsus, Lychnítis,* and *Pulverulléntum;* the nap on all which may be used for tinder, or to make wicks for lamps, whence the name of *Lychnítis* to the second of the above-named species."

[§] The English generic name *Mullein* had its origin from the French *Mullène,* from the softness of the leaves. Dr. HOOKER.

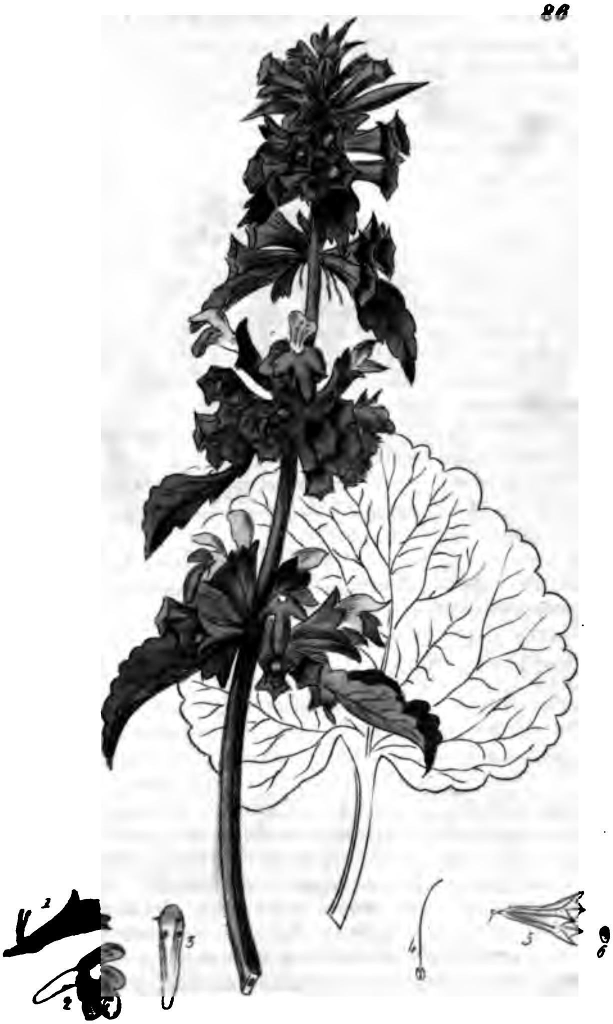
LOCALITIES.—On banks, and by road sides, on a gravelly or chalky soil. Frequent.—*Oxfordshire;* About Nettlebed, Henley, and Stokenchurch: Dr. SIBTHORP. A little way out of Henley, on the road to High Wycombe; May 23, 1831: W. B. In a stone-pit at Forest-Hill; Aug. 1832: Rev. R. WALKER, B. D., Author of the Flora of Oxfordshire. Near Bignell; and in Souldern: Mr. G. WOODWARD.—Between Fawler and Cornbury Park, in abundance: G. COLES, Esq. Woodstock.—*Berks;* Side of the road between Besselsleigh and Tubney Wood: W. B. About Appleton, abundant: Miss HOSKINS.—*Bedfordshire;* Sandy, Warden, and Aspley: Rev. C. ABBOT.—*Cambridgeshire;* Shelford, Triplow, Gogmagog Hills, Fulbourn, Linton, and Abington: Rev. R. RELHAN.—*Devonshire;* Amongst the rubbish of a lime-kiln at Tor Moham: Rev. A. NECK, in Fl. Devon. In Long Lane, Exminster; and in a lane leading from Exminster to Kenford. At Ilsham, near Torquay: Rev. R. P. WELLAND, ibid. Between Crafthole and Looe: Rev. P. JONES. —*Durham;* Tyne and Wear Ballast Hills: Mr. WINCH.—*Essex;* In a lane leading from Chigwell to Chigwell Row: Mr. R. WARNER.—*Hampsh.* Arreton: Mr. SNOOKE.—*Kent;* Crayford, Shooter's Hill, Charlton, Blackheath, Lewisham, Woolwich Warren, Bromley, West Wickham, Plumstead, Bexley, Westerham, Orpington, Dartford, and Ospringe: Dr. MARTYN. St. Martin's Hill, near Canterbury: Mr. E. JACOB.—*Leicestershire;* Glenfield, near Charnwood Forest: Rev. A. BLOXHAM, in Loud. Mag. of Nat. Hist. v. iii. p. 167.—*Middlesex;* About Hampstead; near Richmond Bridge; at Strand on the Green; and about Harefield: Dr. MARTYN.—*Surrey;* Dupper's Hill near Croydon; about Esher and Godalmin: Dr. MARTYN.—*Sussex;* Tillington: Dr. MARTYN.--*Warwickshire;* Near the cross, on the road from Ashow to Stoneleigh, plentiful: Mr. W. G. PERRY.—*Worcestershire;* About Stourbridge, on the side of the Bromsgrove road, &c.: Mr. PURTON, in Mid. Fl.—SCOTLAND. Links between Seton and Gosford: Dr. YULE, in Hook. Fl. Scot. Banks of the river Esk opposite coal-pits; and at Borthwick Castle: Mr. MAUGHAN. Near Boglehill, east of Cockenzie,: Mr. NEILL, in Grev. Fl. Edin.

Perennial.—Flowers from July to September.

Stem simple or very little branched, upright, 2 or 3 feet high, leafy, angular, striated, and often coloured. *Leaves* heart-shaped, veiny, waved and crenate, somewhat downy, but not hoary, dark green, the radical ones a foot long, on very long petioles, (leaf-stalks), those of the stem smaller, and becoming less and less petiolate upwards. *Cluster* spiked, long, terminal, mostly solitary, many-flowered, but not very compact. *Flowers* in bundles, about seven in a set, of a golden-yellow colour. *Filaments* (fig. 3.) clothed with fine purple hairs. *Anthers* orange.

A handsome plant, not unworthy a place in the flower garden. "The beauty of its golden yellow *blossoms* is much enriched by the tints of purplish brown at the mouth of the tube, and orange-coloured Anthers. The flowers are grateful to bees, and should be encouraged near to the Apiarium. Minute attention to the conspicuous parts of these flowers might perhaps lead to the detection of a singular circumstance thus recorded by GOLDSMITH: 'But honey is not the only food on which these animals (insects) subsist. The meal (farina) of flowers, of which their wax is formed, is one of their most favourite repasts. When the flowers upon which bees generally feed are not fully expanded, and this meal or dust is not offered in sufficient quantities, the bees pinch the top of the stamina in which it is contained, with their teeth; and thus anticipate the progress of vegetation.' Swine eat this plant; Sheep are not fond of it; Cows, Horses, and Goats refuse it." WITH. v. ii. p. 313.

The flowers sometimes vary to white.



BALLÓTA NÍGRA *BLACK HOREHOUND* ♃

Pubd. by W. Baxter, Botanic Garden Oxford.

G H. Del.

C M Sc

BALLO'TA*.

Linnean Class and Order. DIDYNA'MIA †, GYMNOSPE'RMIA ‡.

Natural Order. LABIA'TÆ, Juss. Gen. Pl. p. 110.—Sm. Gram. of Bot. p. 99. Eng. Fl. v. iii. p. 63.—Lindl. Syn. p. 196; Introd. to Nat. Syst. p. 239.—Bentham, in Bot. Register (1829).—Rich. by Macgilliv. p. 439.—Loud. Hort. Brit. p. 528.—VERTICILLA'TÆ of Ray, and of Linnæus.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal (monosepalous), tubular, oblong, with 5 angles, 10 ribs, and 10 furrows, permanent; limb somewhat salver-shaped, dilated, spreading, plaited, regular, with 5 pointed teeth. *Corolla* (fig. 2.) of 1 petal (monopetalous), gaping (ringent); tube cylindrical, as long as the calyx; upper lip upright, egg-shaped, concave, notched; lower lip 3-lobed, the middle lobe largest and cleft. *Filaments* (fig. 3.) 4, two longer than the other two, awl-shaped, directed towards the upper lip (see fig. 2). *Anthers* oblong, of 2 spreading valves. *Germen* (fig. 4.) small, 4-lobed. *Style* (fig. 4.) thread-shaped, as long as the stamens. *Stigma* slender, cleft. *Seeds* (fig. 6.) 4, egg-shaped, in the bottom of the somewhat hardened calyx.

Distinguished from other genera in the same class and order, by the 5-cleft, nearly regular *calyx*, with 10 furrows, and the vaulted, hairy, upper lip of the *corolla*.

LINNÆUS observes, that *Ballóta* has the involucrum of *Clinopodium*, the calyx of *Marrubium*, and the blossom of *Stachys*, but is more nearly allied to *Marrubium*.

One species British.

BALLO'TA NI'GRA. Black Horehound. Henbit.

SPEC. CHAR. Leaves egg-shaped, undivided, serrated. Calyx funnel-shaped, abrupt, with short spreading teeth.

Engl. Bot. t. 46.—Linn. Spec. Pl. (1st ed.) p. 582.—Huds. Fl. Angl. (2nd ed.) p. 260.—Sm. Fl. Brit. v. ii. p. 635. Eng. Fl. v. iii. p. 101.—With. (7th ed.) v. iii. p. 716.—Lindl. Syn. p. 201.—Hook. Brit. Fl. p. 274.—Lightf. Fl. Scot. v. i. p. 314.—Sibth. Fl. Oxon. p. 187.—Abbot's Fl. Bedf. p. 131.—Purt. Midl. Fl. v. i. p. 274.—Relh. Fl. Cant. (3rd ed.) p. 243.—Hook. Fl. Scot. p. 184.—Grev. Fl. Edin. p. 132.—Johnston's Fl. of Berwick, v. i. p. 133.—Fl. Devon. pp. 100 & 145.—Walk. Fl. of Oxf. p. 169.—Bab. Fl. Bath. p. 39.—Mack. Catal. of Pl. of Irel. p. 56.—*Ballote fœtida*, Gray's Nat. Arr. v. ii. p. 379.—*Ballote*, Ray's Syn. p. 244.—*Marrubium nigrum*, Johnson's Gerarde, p. 701.

LOCALITIES.—Waste places, and under hedges. Common.

Perennial.—Flowers in July and August.

Stem 2 or 3 feet high, upright, branched, leafy, brownish, and clothed with fine, recurved hairs. *Leaves* petiolated (on leaf-stalks), wrinkled, lower ones heart-shaped, crenate (scolloped), upper ones egg-shaped, strongly, and nearly equally serrated. *Whorls* axillary,

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Fig. 1. Calyx and Bracteas.—Fig. 2. Corolla.—Fig. 3. Upper Lip of the Corolla, and the 4, didynamous Stamens.—Fig. 4. Germen and Style.—Fig. 5. Calyx, after the seed is ripe.—Fig. 6. A Seed.

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* *Ballote*, Gr. from *Ballo*, Gr. *to reject*, on account of its disagreeable smell. Dr. HOOKER.

† See *Lamium album*, fol. 31, note †. ‡ See fol. 31, note ‡.

many-flowered, stalked, compound, bracteated, often accompanied by small leaves. *Bracteas* bristle-shaped, fringed, shorter than the *Calyx* (fig. 5.), which is cylindrical, and hairy, with 10 furrows and as many ribs, the upper part dilated and funnel-shaped, with 5 short, blunt, veiny lobes or teeth, each of which is tipped with a small spreading, bristly point. *Corolla* (fig. 2.) of a dull purple colour, sometimes white; upper lip cloven, vaulted, clothed on the outside with white hairs, which, more or less, converge into a pointed tuft; lower lip 3-lobed, and marked with white veins, the middle lobe the largest, inversely heart-shaped. The calyx attains its full size long before the corolla expands, giving the latter the appearance of having already fallen off, though, on examination, they will be found at the bottom of the former.

The whole herb is clothed with fine soft hair or down, and has a peculiar pungent and disagreeable smell. It is recommended in hysterical cases. The Swedes reckon it almost a universal remedy in the diseases of their cattle. Horses, Cows, Goats, and Sheep refuse it.

There is a variety with a white flower, (*Ballota alba*, Linn. Sp. Pl. 2nd ed. p. 814.), but it is not common. The Rev. R. WALKER, F. L. S., &c. of Magdalen College, Author of the Flora of Oxfordshire, has found it about Littlemore, near Oxford. The Rev. G. E. SMITH has observed it near Sandgate in Kent; Mr. W. PAMPLIN, jun. in Surrey; Mr. WOODWARD, near Hammersmith; Dr. STOKES, at Stafford; Mr. WINCH, near Hartlepool, Durham; and Sir J. E. SMITH, between Norwich and Hellesdon, Norfolk.

The LABIA'TÆ form one of the most natural families in the vegetable kingdom. They are dicotyledonous, *herbaceous* plants or *under-shrubs*, of which the *stem* is 4-cornered, with opposite ramifications; the *leaves* are opposite, divided or undivided, without stipulæ, replete with receptacles of aromatic oil. The *flowers* are produced in opposite, nearly sessile, axillary cymes, resembling whorls; sometimes as if capitate. The *calyx* is monosepalous, tubular, 5- or 10-toothed, inferior, permanent, the odd tooth being next the axis; regular or irregular. The *corolla* is monopetalous, inferior, 2-lipped; the upper lip is undivided or bifid, and overlapping the lower lip, which is larger and 3-lobed. The *stamens* are 4 in number, 2 of which are longer than the other 2 (didynamous), inserted upon the corolla, alternately with the lobes of the lower lip; the 2 upper stamens are sometimes imperfect, or wanting; the *anthers* are 2-lobed; the lobes sometimes so far apart at the base that the 2 cells are confluent at the apex; sometimes 1 cell altogether obsolete. The *ovarium (germen)* is deeply 4-lobed, and seated in a fleshy hypogynous disk; the lobes each containing 1 upright ovulum. The *style* is single, and proceeds from the base of the lobes of the ovarium. *Stigma* bifid, and usually pointed. The *fruit* is composed of 4 small nuts (seeds of *Linn.*) enclosed within the permanent calyx. The *seeds* are upright, with little or no *albumen;* an upright *embryo;* and flat *cotyledons.*

No unwholesome or even suspicious species is found among the plants of this very natural order. See Lindl. Syn. and Rich. by Macgilliv.

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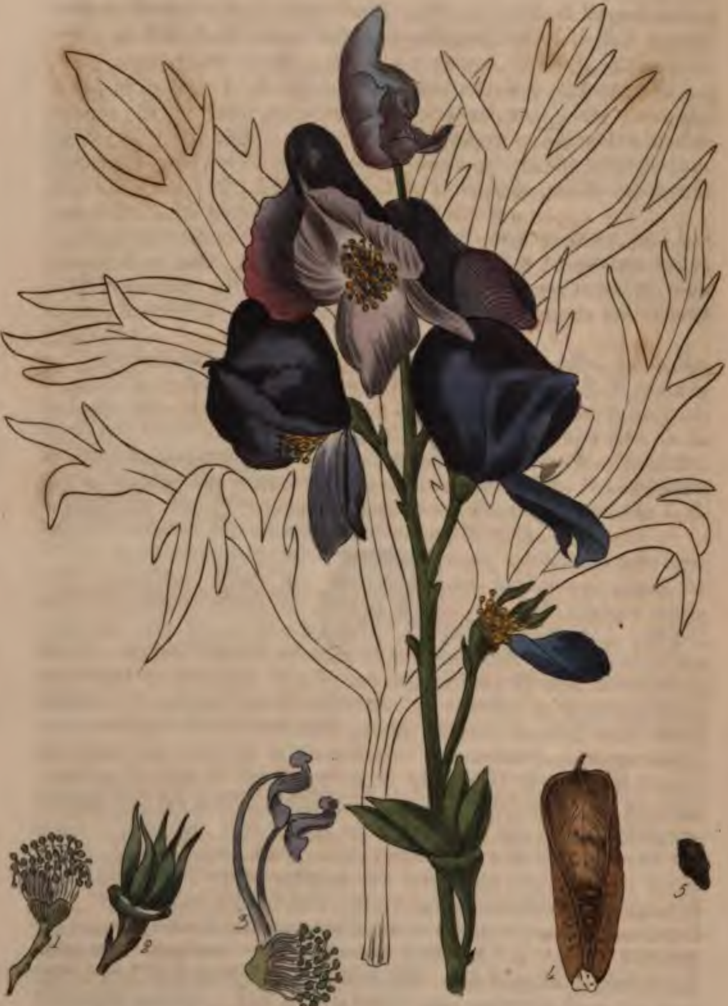

ACONÍTUM NAPÉLLUS. *MONK'S-HOOD.* ♃

Pub.d by W. Baxter. Botanic Garden. Oxford. 1834.

W.A.D. del. C.M. sc.

ACONI'TUM*.

Linnean Class and Order. POLYAN'DRIA†, PENTAGY'NIA.

Natural Order. RANUNCULA'CEÆ, Juss. Gen. Pl. p. 231.—Sm. Gram. of Botany, p. 136.—Lindl. Syn. p. 7.; Introd. to Nat. Syst. p. 6.—Rich. by Macgilliv. p. 465.—Loud. Hort. Brit. p. 495.

GEN. CHAR. *Calyx* none. *Corolla* (*calyx* of Decandolle, Lindley, and Hooker) inferior, unequal, of 5 petals, 4 of them in pairs, opposite; the upper one hooded, or tubular, inverted, the convex or hinder part being uppermost, the deflexed point recurved; 2 lateral ones roundish, opposite, converging; 2 lowermost oblong, deflexed. *Nectaries (petals* of Lindl.*)* (fig. 3.) 2, within the hollow of the uppermost petal, on long awl-shaped stalks, tubular, drooping, oblique at the orifice, recurved at the honey-bag behind. *Filaments* (figs. 1 & 3.) numerous, broad at the base, awl-shaped, short, directed towards the upper petal, some of the innermost often dilated and abortive. *Anthers* roundish, small, upright. *Germens* (fig. 2.) superior, 3, 4, or 5, oblong. *Styles* terminal, awl-shaped, spreading. *Stigmas* simple, acute. *Capsules (follicles)* (fig. 4.) as many as the germens, straight, egg-shaped-oblong, of 1 valve, bursting at the inner side. *Seeds* (fig. 5.) numerous, angular, rugged, at the edges of the capsule.

The naked *corolla* of 5 petals, the upper one hooded; and the 2 recurved, stalked *nectaries* concealed within the hollow of the uppermost petal or hood; will distinguish this from other genera in the same class and order.

One species British.

ACONI'TUM NAPE'LLUS. Common Wolf's-bane. Monk's-hood. Helmet-flower. Friar's-cap.

SPEC. CHAR. Upper petal arched at the back, spur of the nectary nearly conical, bent down, wings of the stamens cuspidate (bristle-pointed), or none. Leaves deeply 5-cleft, cut, with strap-shaped segments, furrowed above. *Germens* 3—5, smooth.

Linn. Sp. Pl. p. 751.—Woodv. Med. Bot. v. i. p. 16. t. 6.—Purt. Midl. Fl. v. iii. p. 47, note.—Sm. Engl. Fl. v. iii. p. 31.—With. (7th ed.) v. iii. p. 665.—Lindl. Syn. p. 13.—Hook. Brit. Fl. p. 261.—Don's General System of Gardening and Botany, v. i. p. 56.—*Napéllus verus cæruleus*, John. Ger. p. 972.

LOCALITIES.—In watery places; by the sides of streams, &c. Rare. First discovered in a wild state by the Rev. EDWARD WHITEHEAD, of Corpus Christi College, Oxford, in 1819.—*Devonshire;* In some profusion on the margin of a limpid stream between two and three hundred yards below Ogwell Mill, in a small meadow, with a footpath leading down the opposite side of the stream: F. RUSSELL, Esq. and Dr. WITHERING, 1827.—*Herefordshire;* In a truly wild state by the side of the river Teme; and in great abundance on the banks of a brook, running into that river: Rev. E. WHITEHEAD, Fellow of Corpus Christi College, Oxford, 1819. Banks of a brook near Little Hereford; June,

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Fig. 1. Stamens.—Fig. 2. Germens, Styles, and Stigmas.—Fig. 3. Nectaries and Stamens.—Fig. 4. A Capsule or Follicle.—Fig. 5. A Seed.

* THEOPHRASTUS derives the name from *Aconis*, Gr. a city of Bithynia, near which it is said to abound: other Etymologists deduce it from *acon*, *acne*, Gr. *a dart;* savage nations poisoning their missiles with a preparation from certain species. Dr. WITHERING.

† See *Anemone nemorósa*, fol. 43. note †.

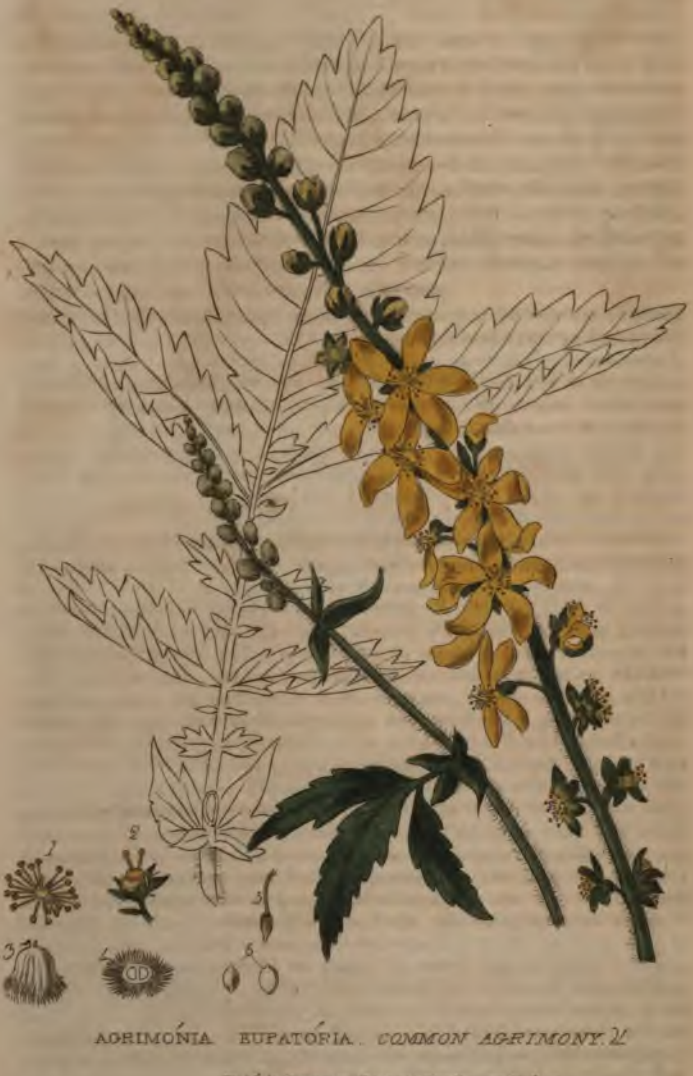
1833: Dr. Lloyd.—*Somersetshire;* In watery ground, on both sides of a brook, at Ford, near Wiveliscomb, for the course of a mile or more, as well as in other similar situations in that neighbourhood, 1825: Mr. T. Clark, jun. in With. Bot. Arr.

Perennial.—Flowers in June and July.

Root thick and fleshy, tapering, somewhat tuberous; of a brown colour on the outside, and yellowish white within. *Stem* upright, from 3 to 4, or 5 feet high; simple, leafy, clothed with minute recurved hairs. *Leaves* alternate; lower ones on long, upper ones on short leaf-stalks; clothed with a few minute recurved hairs like those on the stem, divided to the base into 5 lobes, each lobe cut into numerous, strap-shaped, pointed, somewhat revolute segments; nearly smooth on both sides; paler underneath, marked on the upper side with a furrow along the course of the mid-rib. *Flowers* large, dark blue, terminating the stem in a solitary, simple, upright cluster. Several varieties of this species are cultivated in gardens.

The plant from which the drawing was made, was sent from its locality near the river Teme, to the Oxford Botanic Garden, in 1819, by the Rev. Edward Whitehead.

Every part of the fresh plant is strongly poisonous, but the root is particularly virulent, and many instances of its fatal effects are recorded both by ancient and modern writers; nevertheless, as frequently happens when rightly understood, qualities the most baneful may be converted into blessings, and in the present instance Dr. Storch, a German physician, advocates the medical virtues even of the *Aconite*. Dr. Lempriere (Lectures, p. 234) declares it to possess a caustic suffocating quality, by which swallowing is immediately affected and the stomach corroded. Dodonæus relates an instance, recent in his time, of five persons at Antwerp, who ate the root by mistake, and all died. Dr. Turner also mentions, that some Frenchmen at the same place, eating the shoots of this plant for those of *Masterwort (Imperatória ostrúthium)*, all died in the course of two days, except two players, who quickly evacuated all that they had taken by vomit. There is an account, in the *Philosophical Transactions*, of a man who was poisoned, in the year 1732, by eating some of this plant in a salad, instead of celery; and Dr. Willis, in his work *De Anima Brutorum*, gives an instance of a man who died in a few hours, by eating the tender leaves of this plant also in a salad. Moræus relates a case of a person in Sweden, who having eaten some of the fresh leaves of the *Napellus*, became maniacal, and the surgeon who was called to his assistance, declared that the plant was not the cause of the disorder; and to convince the company that it was perfectly innocent, he eat freely of its leaves; but he suffered by his temerity, for soon after he died in great agony. Physiologists suppose the pernicious effects of this plant to be produced by irritating the nervous coats of the stomach and intestines, so as to occasion violent convulsions through the whole body. To relieve the stomach of its noxious contents, an infusion of tobacco, followed by oily and mucilaginous medicines have been recommended. The juice was formerly used by savage nations for the purpose of poisoning arrows; and also to poison flesh with, for the destruction of wolves, foxes, and other ravenous beasts.—Linnæus says, it is fatal to kine and goats, especially when they come fresh to it, and are not acquainted with the plant; but that it does no injury to horses, who eat it only when dry. *Monk's-hood* should not be planted where children have access, lest they should put the leaves or flowers in their mouths, or rub them about their eyes, for a great disorder may be thus occasioned; and the farina of the flowers blown into the eyes will cause dangerous inflammation.—See *Mill. Gard. Dict.—Woodv. Med. Bot.—With. Bot Arr.*—and *Don's Gen. Syst. of Gard. and Bot.*



AGRIMÓNIA EUPATÓRIA. *COMMON AGRIMONY.* ♃

W. D. del. *Pub^d by W. Baxter. Botanic Garden, Oxford 1832.* C.M.Sc.

AGRIMO'NIA*.

Linnean Class and Order. DODECA'NDRIA †, DIGY'NIA.

Natural Order. ROSA'CEÆ, Juss. Gen. Pl. p. 334.—Sm. Gram. of Bot. p. 171.—Lindl. Syn. p. 88; Introd. to Nat. Syst. p. 81.—Rich by Macgilliv. p. 528.—Loud. Hort. Brit. p. 512.

GEN. CHAR. *Calyx* (fig. 3.) inferior, of 1 sepal, turbinate, permanent, covered with rigid hooked bristles, with 5 small, pointed, permanent marginal segments; the tube subsequently hardened, closed over the seeds. *Corolla* of 5, flat, spreading, notched, petals, each with a small narrow claw, attached to the rim of the calyx. *Filaments* (fig. 1.) hair-like, arising from the rim of the calyx, shorter than the corolla, indeterminate in number, from 7 to 20. *Anthers* small, 2-lobed, compressed. *Germens* 2, sometimes 3, egg-shaped, compressed, at the bottom of the calyx. *Styles* (figs. 2 and 5) lateral, simple, as long as the stamens. *Stigma* obtuse, undivided. *Seeds* (fig. 6.) generally 2, sometimes 1, or 3, egg-shaped, smooth, compressed, pointed, upright, inclosed in the hardened tube of the calyx, (see fig. 4).

Distinguished from other genera in the same class and order, by the 5-cleft *calyx;* the *corolla* of 5 petals; and the *seeds* invested by the hardened calyx.

One species British.

AGRIMO'NIA EUPATO'RIA. Common Agrimony.

SPEC. CHAR. Stem-leaves interruptedly pinnate; leaflets elliptic-oblong; the terminal one stalked. Calyx bristly. Spikes elongated.

Eng. Bot. t. 1335.—Curt. Fl. Lond. t. 317.—Linn. Sp. Pl. p. 643.—Huds. Fl. Angl. (2nd ed.) p. 206.—Sm. Fl. Brit. v. ii. p. 511. Eng. Fl. v. ii. p. 346.—With. (7th ed.) v. ii. p. 575.—Lindl. Syn. p. 99.—Hook. Brit. Fl. p. 217.—Light. Fl. Scot. v. i. p. 247.—Mart. Fl. Rust. t. 37.—Woodv. Med. Bot. Suppl. t. 258. Sibth. Fl. Oxon. p. 150.—Abbot's Fl. Bed. p. 104.—Purt. Mid. Fl. v. i. p. 228. —Relh. Fl. Cant. (3rd ed.) p. 189.—Hook Fl. Scot. p. 147.—Grev. Fl. Edin. p. 105.—Johnston's Fl. Berw. v. i. p. 105.—Fl. Devon. pp. 79 & 171.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 563.—Walk. Fl. Oxf. p. 132.—Mack. Cat. of Pl. of Irel. p. 46.—*Agrimónia vulgáris*, Gray's Nat. Arr. v. ii. p. 577.—*Agrimónia*, Ray's Syn. p. 202.—Johnson's Gerarde, p. 712.

LOCALITIES.—In bushy places; by road sides; and on the borders of fields.—Common.

Fig. 1. Stamens.—Fig. 2. Germen, Styles, and Stigmas.—Fig. 3. Calyx.—Fig. 4. Transverse section of the hardened tube of the Calyx and Seeds.—Fig. 5. A separate Germen, Style, and Stigma.—Fig. 6. Seeds.

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* Corrupted from *Argemone*, a name given by the Greeks to a plant supposed to cure the catăract in the eye, called *argema*, Gr. Dr. HOOKER.

According to Dr. WITHERING, the name is derived from *agros*, Gr. *a field;* and *meno*, Gr. *to inhabit;* its usual station being in corn-fields.

† The eleventh class in the LINNEAN *Artificial System;* it comprehends those plants with perfect flowers, which have from 12 to 19 stamens in each, both numbers inclusive.

I agree with Dr. HOOKER in considering the genus *Agrimonia* would be better placed with its affinities in the class *Icosandria.*

Perennial.—Flowers in June and July.

Root tapering, reddish, branched at the summit, not creeping; its flavour very astringent. *Herb* deep green, covered with soft silky hairs, and when slightly bruised exhaling a peculiar, but grateful, aromatic scent. *Stem* upright, cylindrical, about 2 feet high, scarcely branched. *Leaves* alternate, about a span long, composed of several pair of leaflets, with various small intermediate ones, and an odd one at the end; leaflets mostly opposite, nearly sessile, somewhat egg-shaped, veiny, coarsely serrated, the small leaflets for the most part entire or 3-cleft, terminal leaflet more or less stalked. *Stipulas* of the upper leaves rounded, palmate (hand-shaped). *Flowers* yellow, very numerous, in a close tapering spike, with lobed *bracteas. Calyx* of the fruit externally surrounded with rigid, filiform, hooked bristles, which attach themselves to any thing that comes in their way, like burs. *Petals* egg-shaped, concave, very slightly notched at the summit, twice as long as the calyx. *Stamens* from 5 to 12. *Germen* crowned with the calyx, and a yellowish fleshy receptacle. *Styles* thread-shaped. *Stigmas* blunt. *Seeds* 2, nearly egg-shaped, smooth, flattish on one side.

Agrimony has been chiefly regarded as a medicinal plant, and as such is often raised in gardens. The leaves have a slightly bitterish, roughish taste, accompanied with an agreeable, though weak, aromatic flavour. The flowers are in smell stronger, and more agreeable, than the leaves, and in taste somewhat weaker. They readily give out their virtues both to water and rectified spirit. The leaves impart to the former a greenish yellow, to the latter a deep green colour: the flowers yield their own deep yellow tincture to both menstrua.

The Canadians are said to use an infusion of the root of *Agrimony* in burning fevers with great success; and an infusion of six ounces of the crown of the root, in a quart of boiling water, sweetened with honey, and half a pint of it drank three times a day, Dr. Hill says, is an effectual cure for the jaundice. He advises to begin with an emetic, afterwards to keep the bowels soluble, and to continue the medicine as long as any symptoms of the disease remain.—Infusions of the leaves, which are not disagreeable, may be used as tea. The plant has long been recommended in scorbutic disorders, in debility and laxity of the intestines, &c. Digested in whey, it affords a useful diet-drink, for the Spring season, not ungrateful to the palate or the stomach. Dr. Alston prefers administering the herb in a powder, when the intention is to corroborate; and if thus taken in large quantity, he expects it will cure ague. According to the observations of Linnæus sheep and goats eat it; cows, horses, and swine refuse it. The flowers, fresh gathered, smell like apricots. See *Curt. Fl. Lond.* and *With. Bot. Arr. 7th edition.*

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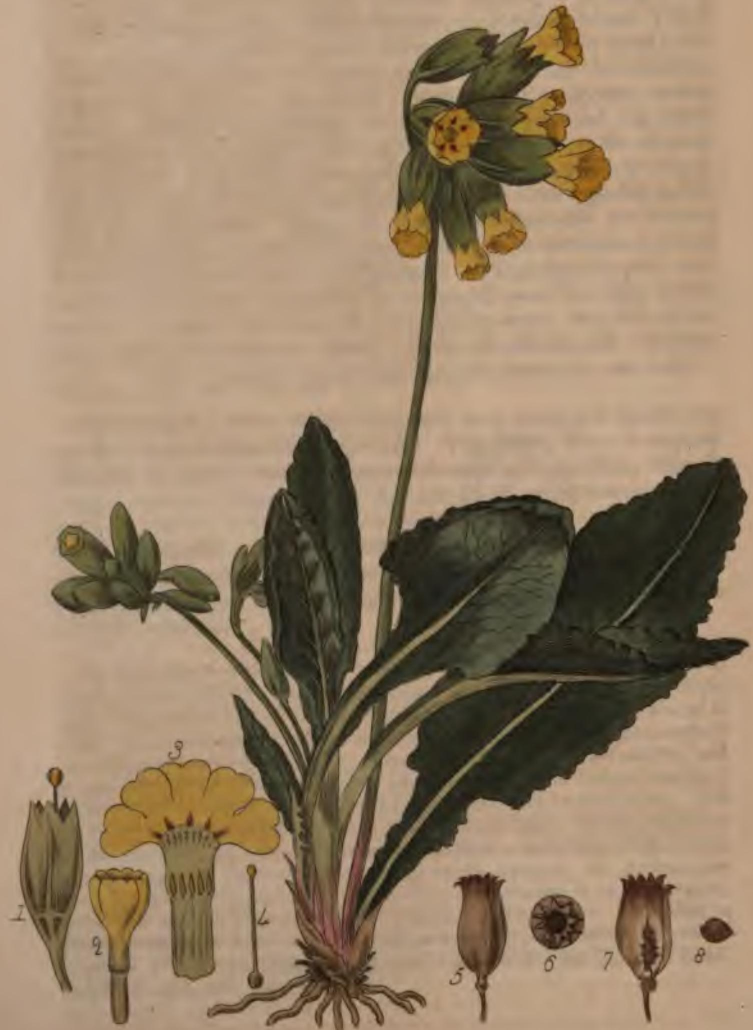

PRÍMULA VÉRIS. *COMMON COWSLIP.* ♃

Pub^d by W. Baxter Botanic Garden Oxford 1834.

W. A. D. del

C. M. sc.

PRI'MULA*.

Linnean Class and Order. PENTA'NDRIA†, MONOGY'NIA.

Natural Order. PRIMULA'CEÆ. *Ventenat.*—Lind. Syn. p. 182; Introduct. to Nat. Syst. p. 225.—Rich. by Macgilliv. p. 431.—Loud. Hort. Brit. p. 529.—LYSIMA'CHIÆ. Juss. Gen. Pl. p. 95.—Sm. Gram. of Bot. p. 95.—PRECIÆ of Linnæus.

GEN. CHAR. *Calyx* (fig. 1.) inferior, monosepalous (of 1 sepal), tubular, upright, with 5 pointed teeth, and 5 angles, regular, permanent. *Corolla* (figs. 2 & 3) monopetalous (of 1 petal), salver-shaped; *tube* cylindrical, as long as the calyx; *limb* spreading, in 5, rather deep, inversely heart-shaped segments; mouth open. *Filaments* (see fig. 3) 5, in the throat of the corolla, very short, and opposite to the segments of the limb. *Anthers* (see fig. 3) upright, pointed, converging (approaching each other at the top), within the tube. *Germen* (fig. 4) globular. *Style* (see fig. 4) thread-shaped, the length of the calyx. *Stigma* globular. *Capsule* (fig. 5) cylindrical, of 1 cell, opening at the top with 10 upright parallel teeth (fig. 6). *Seeds* (fig. 8) numerous, roundish, attached to an oblong, central *receptacle* or *placenta* (see fig. 7).

The 1-celled *capsule*, opening with 10 teeth; the salver-shaped *corolla*, with a cylindrical tube, open in the throat; and the globular *stigma*; will distinguish this from other genera with a monopetalous, inferior *corolla*, and numerous covered *seeds*, in the same class and order.

Five species British.

PRI'MULA VE'RIS. Common Cowslip ‡. Paigle.

SPEC. CHAR. Leaves toothed, wrinkled, contracted towards the middle. Stalk many-flowered. Limb of the corolla concave.

Engl. Bot. t. 5.—Linn. Sp. Pl. p. 204.—Huds. Fl. Angl. (2nd ed.) p. 84.—Sm. Fl. Brit. v. i. p. 223. Engl. Fl. v. i. p. 271.—Gray's Nat. Arr. v. ii. p. 302.—Lindl. Syn. p. 184.—Hook. Brit. Fl. p. 90.—Curt. Brit. Entomol. v. viii. t. 348.—Relh. Fl. Cant. (3rd ed.) p. 85.—Hook. Fl. Scot. p. 71.—Grev. Fl. Edin. p. 47.—Fl. Devon. pp. 35 & 142.—Johnston's Fl. Berk. v. i. p. 55.—Walk. Fl. of Oxf. p. 52.—Mack. Catal. of Pl. of Ire. p. 22.—*Primula veris, a. officinalis*, Lightf. Fl. Scot. v. i. p. 136.—Rev. Professor Henslow, in Cat. of Brit. Pl. p. 19.—Bab. Fl. Bath. p. 41.—*Primula officinalis*, Curt. Fl. Lond. t. 67.—With. (7th ed.) v. ii. p. 289.—Sibth. Fl. Oxon. p. 72.—Abb. Fl. Bed. p. 44.—Purt. Mid. Fl. v. i. p. 114.—*Primula veris major*, Ray's Syn. p. 284.—Johnson's Gerar. p. 780.

LOCALITIES.—In meadows and pastures, chiefly on a clay, or chalky soil.—Common in most counties but that of *Devon*, where it is of rare occurrence, except on the borders of Somerset and Dorset: Fl. Devoniensis.

Perennial.—Flowers in April and May.

Root growing obliquely, appearing as if bitten off at the end, beset with thick reddish scales, which are the remains of past leaves,

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. The same cut open, and a little magnified to show the Stamens.—Fig. 4. Germen, Style, and Stigma.—Fig. 5. Capsule.—Fig. 6. The summit of the same, showing the 10 teeth.—Fig. 7. Capsule divided vertically, to show the receptacle or placenta.—Fig. 8. A Seed.

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* From *Primus*, *first*, on account of the early appearance of the flowers in the commonest of the species. Hence also *Prim-rose*. Drs. HOOK. & WITHER.

† See *Anchusa sempervirens*, folio 48, note †.

‡ "As some think, from their resemblance of scent to the breath of a cow; perhaps from growing much in pasture grounds, and often meeting the *cow's lip*." Dr. JOHNSON.

sending down numerous very long round whitish fibres; it has a singular smell, somewhat like that of Anise. *Leaves* all radical, inversely egg-oblong, hoary, more finely downy and soft than in either *Primula vulgaris*, or *P. elatior*, contracted in the middle, so as frequently to become heart-shaped, as it were, with winged footstalks; their margin toothed and wavy. *Scapes (stalks)* few, 2 or 3 times longer than the leaves, round, upright, pale, villose, terminated by an umbell of *flowers*, which are unequally pedicelled, each pedicle (partial flower-stalk) accompanied at the base by a small, concave, pale, pointed *bractea*. *Calyx* 5-cornered, downy. Limb of the *Corolla* much smaller than in the Oxlip *(Primula elatior)*, concave, or cup-shaped, of a deeper yellow on the upper side, with 5 orange-coloured spots at the base; in these spots SHAKSPEARE, who has described the blossoms of the Cowslip with a degree of accuracy almost botanical, supposed their sweet odour to reside.

"The cowslips tall her pensioners be,
In their gold coats spots we see;
Those be rubies, fairy favours,
In those freckles live their savours."—Mids. Night's Dream.

The blossoms of the Cowslip, in its wild state, usually hang to one side, a character which has not escaped the notice of some of our Poets.

Thus THOMPSON, in his *Seasons*—

"Then seek the bank where flowering elders crowd,
Where scatter'd wild the Lily of the Vale
Its balmy essence breathes, where *cowslips hang*
The dewy head, where purple violets lurk."—*Spring*, l. 143.

MILTON, in his *Lycidas*, calls them—

"Cowslips wan that hang the pensive head."

And one of our favourite modern poets alludes to the drooping of the blossoms of this plant, in the following beautiful lines.

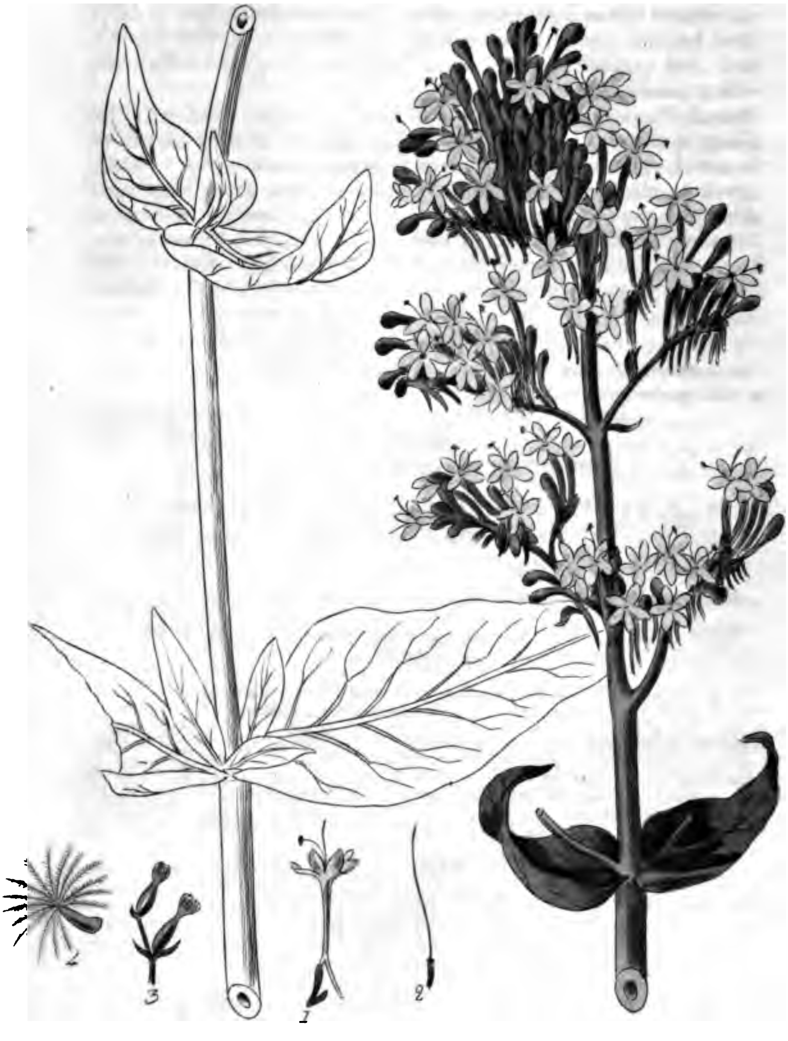
"Now in my walk with sweet surprise
I see the first Spring Cowslip rise,
The plant whose pensile flowers
Bend to the earth their beauteous eyes,
In sunshine, as in showers."—MONTGOMERY.

The leaves of the Cowship are sometimes eaten as a pot-herb, and in salads; and they are recommended for feeding silk-worms, before the leaves of the mulberry tree make their appearance. The blossoms are used for making a pleasant wine, approaching in flavour to the Muscadel wines of the south of France. It is commonly supposed to possess a somniferous quality. The process of making this wine is alluded to by MONTGOMERY, in the following lines.

"Where thick thy primrose blossoms play,
Lovely and innocent as they,
O'er coppice, lawns, and dells,
In bands the village children stray
To pluck thy honied bells:
Whose simple sweets, with curious skill,
The frugal cottage dames distil,
Nor envy France the vine;
While many a festal cup they fill
Of Britain's homely wine."

Sir J. E. SMITH mentions a dark-flowered variety, called the Black Cowslip, having been sent to him from Bedfordshire, by the late Rev. Dr. ABBOTT, with the *calyx* divided to the base; and from Northumberland, by Mr. WINCH, with the same part unaltered.

An hose in hose variety of the Cowslip is cultivated in gardens; and both GERARDE and PARKINSON figure a variety of it with full flowers, which they describe as being common in gardens in their time (1597—1629); this variety is now very rare.



VALERIÁNA RÚBRA *RED VALERIAN* ♃

Pub^d by W. Baxter. Botanic Garden. Oxford 1834.

F^r A.D. del.

C.M. sc

VALERIA'NA *.

Linnean Class and Order. TRIA'NDRIA †, MONOGY'NIA.

Natural Order. VALERIA'NEÆ, *Decand.*—Lind. Syn. p. 137; Introd. to Nat. Syst. p. 197.—Rich. by Macgilliv. p. 458.—Loud. Hort. Brit. p. 520.—DIPSA'CEÆ, Juss. Gen. Pl. p. 194.—Sm. Gr. of Bot. p. 125.

GEN. CHAR. *Calyx* (see figs. 3 and 4) a slight border to the top of the Germen, at length unfolding into a feathery pappus or crown for the seed. *Corolla* (fig. 1.) monopetalous (of 1 petal), tubular, with a protuberance or spur on one side at the base, containing honey; limb cut into 5 blunt, rather unequal segments. *Filaments* 3, or fewer than 3, awl-shaped, upright, borne by the corolla, and as long as the limb. *Anthers* oblong. *Germen* (see fig. 2.) inferior, elliptic-oblong, of 1 cell. *Style* (see fig. 2.) thread-shaped, the length of the stamens. *Stigma* mostly simple. *Seed* (fig. 4.) egg-oblong, compressed, with 3 ribs at one side, and 1 at the other, crowned with many, spreading, feathery rays, which unroll gradually.

Distinguished from other genera, in the same class and order, by the superior, 5-cleft *corolla*, with a protuberance at the base; and the single *seed* with a feathery radiating crown.

Sir J. E. SMITH observes, that the *seed* in this genus is truly naked, having only a membranous film besides its outer skin, or *testa*.

Four species British.

VALERIA'NA RU'BRA. Red Valerian.

SPEC. CHAR. Corolla with a long spur, and only 1 stamen. Leaves egg-spear-shaped, nearly entire.

Engl. Bot. t. 1531.—Linn. Sp. Pl. p. 44.—Huds. Fl. Angl. (2nd ed.) p. 12.—Sm. Fl. Brit. v. i. p. 37. Engl. Fl. v. i. p. 42.—With. (7th ed.) v. ii. p. 88.—Hook. Brit. Fl. p. 14.—Sibth. Fl. Oxon. p. 20.—Relh. Fl. Cant. (3rd ed.) p. 17.—Purt. Midl. Fl. v. iii. p. 5.—Hook. Fl. Scot. p. 14.—Grev. Fl. Edin. p. 7.—Fl. Devon. pp. 5 & 162.—Walk. Fl. of Oxf. p. 10. –Perry's Pl. Varvic. Selectæ, p. 4.—Mack. Catal. of Pl. of Irel. p. 10.—*Valeriana rubra Dodonæi*, Johnson's Gerarde,. p. 678.—*Centranthus ruber*, Decandolle's Fl. Fr. v. iv. p. 239; Prod. v. iv. p. 632.—*Centranthus marinus*, Gray's Nat. Arr. v. ii. p. 479.—*Centranthus latifolius*, Lindl. Syn. p. 139.

LOCALITIES.—On old walls, chalk cliffs, &c. Rare.—*Oxfordsh.* On the wall of Merton College Garden: Dr. SIBTHORP, 1794. It is growing in the same place now, May 22, 1834, but the white flowered variety predominates: W. B.—*Cambridgesh.* Old walls at Coton; and Babraham; and on Ely Cathedral, and the walls adjoining on the south side: Rev. R. RELHAN.—Frequent in *Corn-*

Fig. 1. Corolla, Stamen, and Style.—Fig. 2. Germen, Style, and Stigma.—Fig. 3. Two seeds, crowned with the unexpanded feathery down, or pappus. Fig. 4. A seed, with the pappus expanded.

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* From *Valeo*, to be powerful, on account of the medicinal effects of some species. Dr. HOOKER.

† The third class in the LINNEAN *Artificial System;* comprehending all those plants which have perfect flowers, with three distinct stamens in each. *Valeriana rubra* differs from other British species of *Valerian*, in having only one stamen instead of three; on that account made a new genus of by some Botanists.

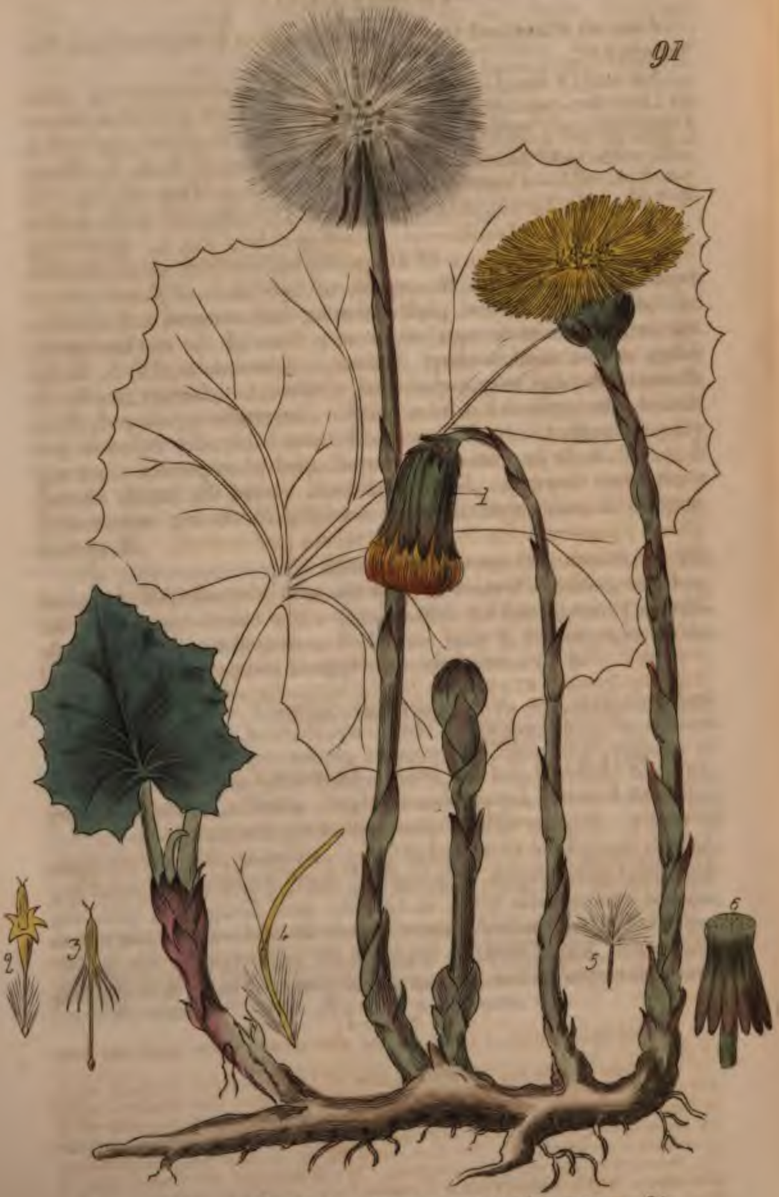
wall: Mr. Hudson.—*Devon;* On old walls and buildings, at Exeter, Dowlish, Ashburton, Teignmouth, Dartmouth, Tor Abbey, &c.: Messrs. Jones and Kingston, in Fl. Devon.—*Kent;* Sandy hills near Dartford, by the road side: Gent. Mag. 1797, p. 217.—*Norfolk;* In Bishopgate-street, Norwich: Sir J. E. Smith.—*Northumberland;* On the walls of Hulm Abbey, near Alnwick: Mr. Winch.—*Somersetsh.* On Glaslonbury Abbey: English Botany. On the rocky hill of Weston-Super-Mare: Rutter's Somerset.—*Surrey;* On the walls of Morton Abbey; August 23, 1758: Dr. Martyn.—*Warwicksh.* On the east gate, Warwick: Mr. W. G. Perry.—*Worcestersh.* On the walls of the Priory gate at Crickhowell: Mr. Edwin Lees, in Loud. Mag. of Nat. Hist. v. iii. p. 161.—WALES. *Anglesey;* Llanidan churchyard wall: Welsh. Bot.—SCOTLAND. Old walls of Inverleith: Mr. E. S. Maughan, in Hook. Fl. Scot. —IRELAND. On walls, generally near gardens: Mr. J. T. Mackay.

Perennial.—Flowers from May to August.

Root somewhat woody, spreading. Whole plant very smooth and even. *Stems* a foot or more high, leafy, very smooth, and rather glaucous. *Leaves,* as in all the species of this genus, opposite; lower ones somewhat stalked, spear-shaped, entire, rather succulent; upper ones sessile, more egg-shaped, and occasionally toothed at the broadest part. *Flowers* of a fine deep rose colour, sometimes varying to a pale flesh colour, or white; they are very numerous, scentless, upright, forming a dense corymbose head, of forked, unilateral spikes. *Seed* egg-shaped, narrowed upwards, a little compressed, crowned by the sessile feathery down, or pappus, (see fig. 4).

The celebrated French Botanist, Professor Decandolle, has separated this, and 2 or 3 exotic species, from *Valeriána,* and has, with them, consituted a new genus which he has named *Centránthus;* this genus differs from *Valeriana* only in the long spur at the base of the tube, and in having 1 stamen instead of 3.

Valeriana rubra, although apparently wild, and very abundant in the chalk-pits in Kent, is considered to be originally the outcast of gardens.—Dr. Withering observes, " From the progress of time and intercourse with foreign parts, so many exotics have become naturalized in Britian, that it is scarcely possible to define what may strictly be considered indigenous; and in the present state of scientific research, were we rigidly to adhere to aborigines, excluding those plants which there is reason to suspect may have been gradually propagated from gardens or other adventitious sources, our catalogue would be deemed extremely incomplete. *Valeriana rubra,* and *V. pyrenaica* are instances of these *dubiæ,* being more properly natives of the south of Europe, yet not unfrequently growing wild with us." *Bot. Arr.* v. ii. p. 89, note.



TUSSILÁGO FÁRFARE. *COMMON COLT'S-FOOT.* ♃

I. R. Del. *Pub.d by W. Baxter, Botanic Garden, Oxford 1834.* C. Mathews. Sc.

TUSSILA'GO*.

Linnean Class and Order. SYNGENE'SIA†, POLYGA'MIA, SUPE'RFLUA‡.

Natural Order. COMPO'SITÆ§; Tribe, CORYMBI'FERÆ‖. *Juss.* —Lind. Syn. pp. 140 & 142; Introd. to Nat. Syst. pp. 197 & 199.— COMPO'SITÆ; suborder, JACOBE'Æ. Loud. Hort. Brit. pp. 520 & 521.—SYNANTHE'REÆ; tribe, CORYMBI'FERÆ. Rich. by Macg. pp. 454, 455.—CORYMBI'FERÆ, sect. 2. Juss. Gen. Pl. pp. 177 & 180.—Sm. Gram. of Bot. pp. 121 & 123; Eng. Fl. v. iii. p. 334.

GEN. CHAR. *Involucrum (common calyx)* (fig. 1.) cylindrical, formed of a simple row of strap-shaped, upright, close, parallel, equal scales. *Corolla* compound, of two kinds of *florets;* those of the *disk* (fig. 2.) few, perfect (having both stamens and a pistil), tubular, in 5, nearly equal segments; those of the *ray* numerous, long, strap-shaped, without stamens. *Filaments* (fig. 3) 5, in the florets of the disk only, awl-shaped, very short. *Anthers* (see fig. 3) united into a cylindrical tube. *Germen* inversely egg-shaped, short, often imperfect. *Style* (see fig. 3) thread-shaped. *Stigmas* (see figs. 2, 3, & 4) 2, prominent, strap-shaped when perfect, thick and short when abortive. *Seed-vessel* none, except the hardly altered, finally reflexed, calyx (fig. 6). *Seed* (fig. 5) oblong, compressed. *Down (pappus)* (fig. 5) simple, sessile (not stalked). *Receptacle* (fig. 6) naked. *Scape* single flowered.

Distinguished from other genera, with strap-shaped marginal florets, in the same class and order, by the naked *receptacle;* the *calyx* of a simple row of equal, strap-shaped scales; the simple *pappus;* and the inversely egg-shaped, compressed *seed.* And from the genus PETASI'TES, by the strap-shaped *marginal florets;* and the single-flowered *scape* (flower-stalk).

One species British.

TUSSILA'GO FA'RFARA. Common Colt's-foot.

SPEC. CHAR. Leaves heart-shaped, angular, toothed, cottony beneath. Scape woolly, clothed with scaly bracteas.

Engl. Bot. t. 429.—Curt. Fl. Lond. t. .—Linn. Sp. Pl p. 1214.—Huds. Fl. Angl. (3rd ed.) p. 364.—Sm. Fl. Brit. v. ii. p. 878. Eng. Fl. v. iii. p. 425.— With. (7th. ed.) v. iii. p. 933.—Woodv. Med. Bot. v. i. p. 37. t. 13.—Lindl. Syn.

Fig. 1. Calyx.—Fig. 2. A tubular floret of the disk.—Fig. 3. The 5 Filaments, with the Anthers united into a tube round the pistil.—Fig. 4. A strap-shaped floret of the ray.—Fig. 5. A Seed, crowned with the sessile, simple pappus.—Fig. 6. The Receptacle, and reflexed Calyx.—Figs. 2, 3, & 4, a little magnified.

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* Altered from *Tussis*, a *cough*, in the cure of which the plant has been employed.

† The 19th class in the Artificial System of LINNÆUS; the plants of which it is composed have all of them *compound flowers*, with their stamens united by their anthers into a cylindrical tube. Here, as Sir J. E. SMITH observes in his Introduction to Botany, "The Linnean method of arrangement performs more than it promises," for this class forms one of the most natural and extensive families in the vegetable kingdom. It comprehends the COMPO'SITÆ of *Linnæus;* the CINAROCE'PHALÆ, CICHORA'CEÆ, and CORYMBI'FERÆ, of *Jussieu;* and the SYNANTHE'REÆ, of *Richard.*

‡ See *Achillea Ptarmina*, fol. 36, note †. § See *Prenanthes muralis*, fol. 27, a.
‖ See *Achillea Ptarmica*, fol. 36, a.

p. 174.—Hook. Brit. Fl. p. 359.—Lightf. Fl. Scot. v. i p. 475.—Sibth. Fl. Oxon. p. 261.—Abbot's Fl. Bedf. p. 181.—Purt. Midl. Fl. v. ii. p. 407.—Relh. Fl. Cant. (3rd ed.) p. 340.—Hook. Fl. Scot. p. 242.—Grev. Fl. Edin. p. 177.—Curt. Brit. Entomol. v. viii. t. 367.—Fl. Devon. pp. 137 & 159.—Johnston's Fl. of Berw. v. i. p. 183.—Walk. Fl. of Oxf. p. 239.—Bab. Fl. Bath. p. 25.—Mack. Catal. of Pl. of Irel. p. 73.—*Tussilago vulgaris*, Gray's Nat. Arr. v. ii. p. 472. —*Tussilago*, Ray's Syn. p. 173.—Johnson's Gerarde, p. 811.

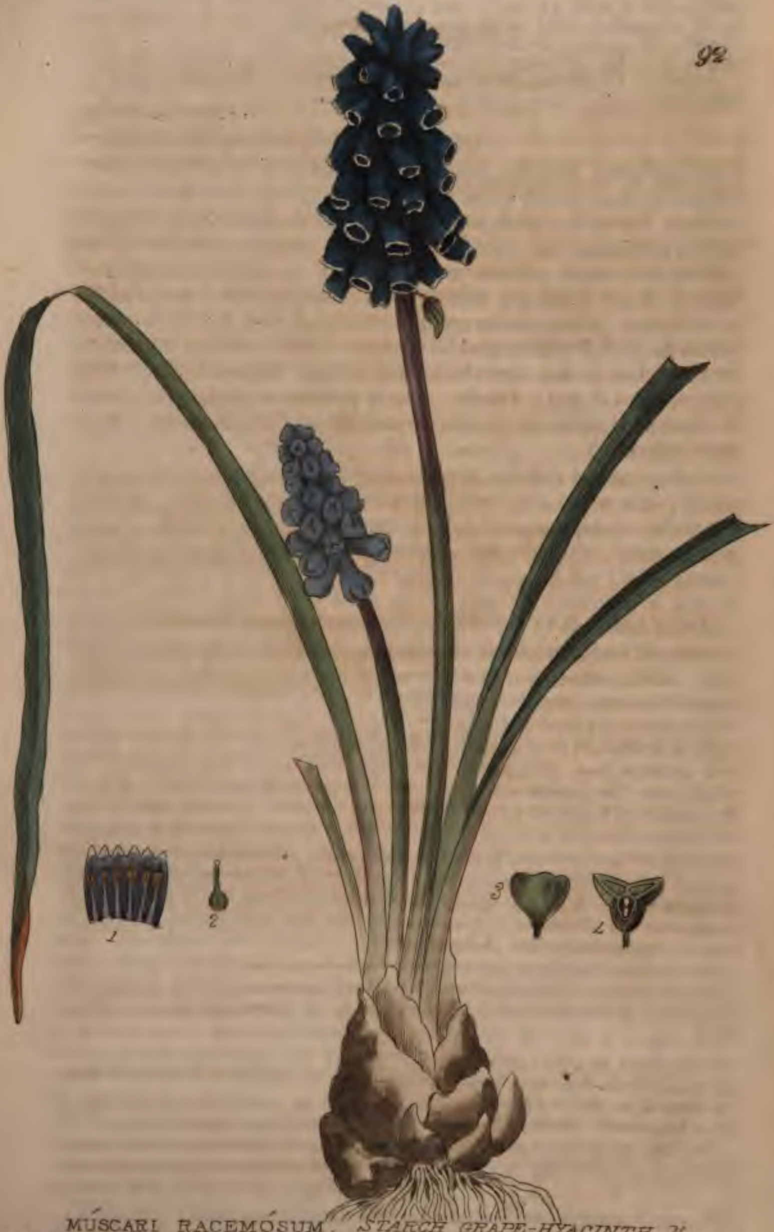
LOCALITIES.—In moist places; on a clay or marly soil; and on lime-stone rubbish. Common.

Perennial.—Flowers in March and April.

Root very long, mucilaginous, bitterish, whitish, creeping horizontally under the ground, sending off many fibres, and propagating itself far and wide, thus becoming a most troublesome weed to the farmer and gardener. *Leaves* (these do not appear till after the flowers) upright, on long furrowed, reddish brown leaf-stalks, heart-shaped, slightly lobed, sharply and copiously toothed, very smooth, and of a slightly glaucous green colour above; pure white, and densely cottony, with prominent veins beneath, the cotton easily rubbing off; when young they are rolled back, and in that state are thickly enveloped in cottony down. *Stalks (scapes)* numerous, radical, appearing before the leaves, solitary or in clusters, from 3 to 5 inches high, lengthening after flowering, round, woolly, and clothed with numerous, scattered, smooth, reddish brown scales or *bracteas*, which are crowded under the flower, like an exterior calyx. *Flowers* bright yellow, terminating the scapes, upright while in blossom, after flowering hanging down, but when the *down* of the seeds expands, becoming upright again. Scales of the *Calyx* strap-shaped, reddish brown. *Florets of the Ray* very narrow, in 2 or 3 rows, as long as the calyx, expanding. *Florets of the Disk* tubular, swelling upwards, 5-cleft. *Seed-down* sessile, longer than the calyx.

Colt's-foot is the first plant that vegetates in marl or lime-stone rubble. Mr. HOLDICH observes, that every part of the root will produce a plant, and though buried to the depth of a yard or more, it will vegetate, send up a stem to the surface, and spread with astonishing rapidity. It must never be suffered to produce flowers, or fully expand its leaves. Draining, paring, and burning, followed by a naked summer fallow, with hoeing in due season, will completely eradicate this nuisance. Mr. PIT says, that it may be destroyed by cutting off the crown of the root in March. The downy substance on the under surface of the leaves, wrapped in a rag, dipped in a solution of saltpetre, and dried in the sun, makes the best tinder. The leaves are the basis of the British herb tobacco. The smoaking of this herb, as a remedy for obstinate coughs, was recommended by PLINY; and LINNÆUS says, that it is still used in Sweden for the same purpose. The leaves are somewhat austere, bitterish, and mucilaginous to the taste. They were formerly much used in coughs and consumptive complaints; and perhaps not without reason, for Dr. CULLEN found them to do considerable service in scrophulous cases; he gave a decoction of the dried leaves, and found it succeed where sea-water failed. FULLER relates the case of a girl, with twelve scrophulous sores, who was cured by drinking, daily, as much as she could, for above four months, of a decoction of the leaves made so strong as to be sweetish and glutinous. A decoction with wormwood is said to have done wonders in calculous complaints. It is sometimes used as tea, sweetened with honey, for colds and asthmas, and has frequently given relief, if not effected a cure. According to the observations of LINNÆUS, goats and sheep eat it; cows are fond of it; horses and swine refuse it.

Two very pretty parasitical Fungi, *Urédo Tussiláginis*, Grev. Fl. Edin. p. 437; and *Æcídium Tussiláginis*, ib. p. 447; are common on the under-surface of the leaves of *Tussilágo Fárfara* about Oxford.



MÚSCARI RACEMÓSUM. *STARCH GRAPE-HYACINTH.* ♃

I.E.Del. *Pub.d by W. Baxter, Botanic Garden, Oxford. 1834.* C.M.Sc.

MU'SCARI*.

Linnean Class and Order. HEXA'NDRIA†, MONOGY'NIA.

Natural Order. ASPHODE'LEÆ‡, *Dr. R. Brown.*—Lind. Syn. p. 266; Introd. to Nat. Syst. p. 273.—Loud. Hort. Brit. p. 539.—ASPHO'DELI, Juss. Gen. Pl. p. 51.—Sm. Gram. of Bot. p. 74.—LILIA'CEÆ, Rich. by Macgilliv. p. 403.

GEN. CHAR. *Calyx* none. *Corolla (perianthium* §*)* (fig. 1.) inferior, monopetalous (of 1 petal), egg-shaped, inflated in the middle, 6-toothed. *Filaments* (see fig. 1.) 6, simple, smooth, awl-shaped, inserted into the middle of the corolla, and inclosed within it. *Anthers* oblong, converging. *Germen* (see fig. 2.) superior, roundish, with 3 angles, and 3 furrows. *Style* (see fig. 2.) simple, upright, shorter than the corolla, deciduous. *Stigma* blunt. *Capsule* (see figs. 3 & 4.) 3-sided, with 3 prominent angles, or 3 lobes, 3 cells, and 3 valves, with central partitions. *Cells* 2-seeded. *Seeds* egg-shaped.

The egg-shaped, inflated, 6-toothed, deciduous *corolla* or *perianthium;* the 3-cornered *capsule* with prominent angles; and the *cells,* each containing 2 seeds; will distinguish this from other genera, with a naked, inferior corolla, in the same class and order.

One species British.

MU'SCARI RACEMO'SUM. Starch Grape-Hyacinth.

SPEC. CHAR. Flowers crowded, egg-shaped, 6-furrowed, upper ones sessile, abortive. Leaves strap-shaped, channelled, flaccid, longer than the scape.

Miller's Gard. Dict.—Gray's Nat. Arr. v. ii. p. 176.—Lindl. Syn. p. 269.—Hook. Brit. Fl. p. 157.—*Hyacinthus racemosus,* Linn. Sp. Pl. p. 455.—Engl. Bot. t. 1931.—Jacq. Fl. Aust. t. 187.—Curt. Bot. Mag. t. 122.—Sm. Eng. Fl. v. ii. p. 149.—With. (7th edit.) v. ii. p. 431.—Walk. Fl. of Oxf. p. 94.—*Hyacinthus racemosus cæruleus minor juncifolius,* Rudbeck's Campi Elysii, v. ii. p. 25. f. 7.—*Hyacinthus botryoides cæruleus,* Johnson's Gerarde, p. 118.

LOCALITIES.—In grassy fields, and among ruins. Very rare.—*Oxfordshire;* Old walls in Bicester, and Wendlebury: Mr. G. WOODWARD.—*Berks;* Near Newbury: Dr. LAMB.—*Norfolk;* On the earthy ledge of the old city wall, on the north side of Norwich, plentiful: Sir J. E. SMITH.—*Suffolk;* In fields at Hengrave; and Plantations at Cavenham: Sir T. G. CULLUM: On a sandy soil at Cavenham: Rev. G. R. LEATHES.

Fig. 1. Corolla, opened vertically to show the Stamens.—Fig. 2. Germen, Style, and Stigma.—Fig. 3. Capsule.—Fig. 4. A Transverse Section of the same.

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* From *moschos,* Gr. *musk,* a smell yielded by one species, (*Muscari Moschatum,* of Curt. Bot. Mag. t. 734). Dr. HOOKER.

† The sixth class in the Artificial System of LINNÆUS; it contains those plants which have perfect flowers, with six distinct, equal stamens in each.

Many of the plants of which this class is composed, are amongst the most elegant and beautiful in the vegetable kingdom; the greater number of them are *monocotyledonous* (having only one *seed-leaf* or *cotyledon*), and *hexapetalous* (6-*petaled*), or *monopetalous* (1-*petaled*), and 6-cleft. It comprises several very natural families, as *Amaryllideæ,* folio 55, a; *Melanthdceæ; Asphodéleæ,* folio 41, a; *Smildceæ; Liliáceæ,* folio 1, (2nd edit.) a; *Júnceæ; Juncagíneæ,* folio 60, a; and some others.

‡ See *Gágea lútea,* fol. 41, a. § See *Galánthus nivalis,* fol. 33, note ‡.

Perennial.—Flowers in April.

Bulb small, egg-shaped, brown on the outside. *Leaves* many, growing immediately from the bulb, deep green, flaccid, and loosely spreading; strap-shaped, very narrow, about 9 inches or a foot long; channelled on the upper side; semi-cylindrical on the lower. *Scape (stalk)* solitary, upright, cylindrical, shorter than the leaves, often brownish, terminated by a close, upright *cluster* of numerous, drooping, dark blue flowers, which are imbricated (tiled) downwards, each on a short, slender pedicle, accompanied by a minute *bractea* at its base. *Corolla* small; *tube* oblong, ventricose (distended in the middle); *limb* cut into 6 minute, spreading, white teeth. *Capsule* with 3 rounded lobes. *Seeds* 2 in each cell. The *flowers* smell like wet starch; many of the uppermost of them are pale, diminutive, and imperfect.

This plant is a native of the South of Europe. Dr. MARTYN informs us that he gathered it in flower, near Geneva, on the 8th of April, 1779. It was cultivated by GERARDE in 1596; he calls it Blew Grape-flower; and PARKINSON, in his *Paradisi in Soli*, 1629, calls it the Dark Blew Grape-flower. In that very useful work, " The Botanist's Guide through England and Wales, by DAWSON TURNER, Esq. F. R. S., &c.; and L. W. DILLWYN, Esq. F. R. S., &c." this plant is first recorded as a native of Britain, on the authority of Sir T. G. CULLUM, who found it plentifully in the habitats above mentioned, and considers it "at least equally entitled to a place in the British Flora as *Tulipa sylvestris* (t. 2.), and many other naturalized species."

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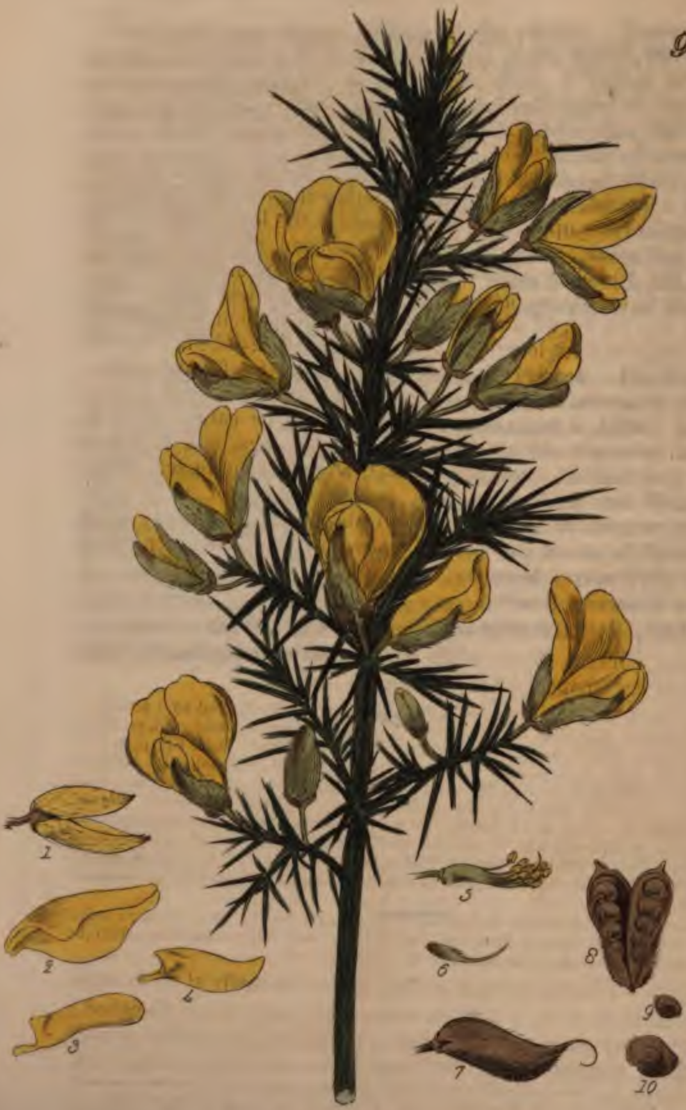

ÚLEX EUROPÆUS. COMMON FURZE. ♄

I. R. Del.

Pub^{d} by W. Baxter, Botanic Garden, Oxford.

C. M. Sc.

U'LEX[*].

Linnean Class and Order. DIADE'LPHIA[†], DECA'NDRIA.

Natural Order. LEGUMINO'SÆ, Juss. Gen. Pl. p. 345.—Sm. Gram. of Bot. p. 174.—Lindl. Syn. p. 75.; Introd. to Nat. Syst. p. 87.—Rich. by Macgilliv. p. 532.—Sm. Eng. Fl. v. iii. p. 259.—Loud. Hort. Brit. p. 509.—PAPILIONA'CEÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 2 egg-shaped, concave, equal, coloured, permanent sepals, rather shorter than the keel of the corolla; the upper with 2 small teeth; the lower with 3. *Corolla* of 5 petals; standard (fig. 2.) egg-shaped, cloven, ascending; wings (fig. 3.) oblong, obtuse, shorter than the standard; keel (fig. 4.) of 2, straight, obtuse petals, cohering by their lower edges. *Filaments* (fig. 5.) 10, all united at the base, one of them separated for more than half its length. *Anthers* roundish, 2-lobed. *Germen* (fig. 6.) oblong, nearly cylindrical, hairy. *Style* (fig. 6.) awl-shaped, curved upwards. *Stigma* small, obtuse. *Legume* (figs. 7 & 8.) oblong, turgid, straight, scarcely longer than the calyx, of 1 cell, and 2 hard, concave, elastic valves. *Seeds* (figs. 9 & 10.) from 6 to 8, polished, somewhat angular, slightly compressed, with a tumid, cloven crest.

The monadelphous *stamens*, and disepalous (2-leaved) *calyx*, nearly as long as the *legume*, will distinguish this from other genera in the same class and order.

Two species British.

U'LEX EUROPÆ'US. Common Furze. Whin. Gorse.

SPEC. CHAR. Teeth of the Calyx very minute, close together. Bracteas egg-shaped, loose. Branches upright.

Eng. Bot. t. 742.—Linn. Sp. Pl. p. 1045.—Huds. Fl. Angl. (2nd ed.) p. 312.—Sm. Fl. Brit. v. ii. p. 756. Eng. Fl. v. iii. p. 265.—With. (7th ed.) v. iii. p. 380.—Gray's Nat. Arr. v. ii. p. 594.—Lindl. Syn. p. 77.—Hook. Brit. Fl. p. 318.—Lightf. Fl. Scot. v. i. p. 385.—Sibth. Fl. Oxon. p. 220.—Abbot's Fl. Bedf. p. 154.—Purt. Midl. Fl. v. i. p. 330.—Relh. Fl. Cant. (3rd ed.) p. 289.—Curt. Brit. Entom. v. i. t. 21!—Hook. Fl. Scot. p. 212.—Grev. Fl. Edin. p. 155.—Fl. Devon. pp. 119 & 174.—Johnst. Fl. Berw. v. i. p. 158.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 148.—Walk. Fl. of Oxf. p. 205.—Baxter's Lib. of Agricul. and Horticul. Knowledge, (2nd ed.) p. 269—Bab. Fl. Bath. p. 11.—Mack. Catal. of Pl. of Irel. p. 65—*Genista spinosa vulgaris,* Ray's Syn. p. 475.—Johnson's Gerarde, p. 1319.

LOCALITIES.—Abundant on heaths, on commons, and by road-sides, in most parts of England, Ireland, Scotland, and Wales. Said to be extremely luxuriant in Cornwall, growing to the height of 6 or 8 feet.

A Shrub.—Flowers in April or May, and occasionally at all seasons.

Stems from 2 to 5 feet or more high, very much branched; *branches* very close, upright, green, roughish, hairy when young, furrowed, spinous at the end, and beset with large, compound,

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Fig. 1. Calyx.—Fig. 2. Standard.—Fig. 3. One of the Wings.—Fig. 4. Keel.—Fig. 5. Stamens.—Fig. 6. Germen, Style, and Stigma.—Fig. 7. Legume.—Fig. 8. The same opened, to show the two valves and the seeds.—Fig. 9. A Seed.—Fig. 10. The same a little magnified.

[*] Said to be *ac, a point*, in Celtic, in reference to the prickly branches. Mr. G. DON.

[†] See *Spártium Scopárium,* folio 77.

spreading, striated, green, pungent, smoother, permanent *thorns.* *Leaves* few, scattered, small, solitary, awl-shaped, entire, spinous-pointed, roughish or hairy, deciduous. *Peduncles (flower-stalks)* solitary or in pairs, single-flowered. *Bracteas* 2, at the base of the calyx, small, egg-shaped, loose, or spreading, and like the peduncles and calyx, densely downy. *Calyx* (fig. 1.) of a brownish yellow or rusty colour, downy, its teeth very small, and so close together, as to be scarcely distinguishable. *Corolla* half as long again as the calyx, of a bright golden yellow, with a peculiar oppressive scent. *Legumes* (figs. 7 & 8.) oblong, downy, about half an inch long, bursting elastically in dry hot weather, with a crackling noise, and scattering their *seeds* extensively. *Seeds* (figs. 9 & 10.) somewhat heart-shaped, smooth and shining, with a very prominent cloven crest.

A very ornamental variety with double flowers is cultivated in gardens.

Dr. WITHERING observes, that Furze is in some respects a very hardy plant, and will make fences upon the bleaker mountains, and close to the sea-side, where the spray of the sea kills almost every other shrub; but it is impatient of cold, is often destroyed by severe frost, and is rarely found in the northern parts of our island. It is frequently employed for hedges, but, excepting where it occupies a considerable breadth on a raised mound, it does not last long, getting naked at the bottom. The chief use of this shrub, however, is to afford firing for the poor, and when employed for this purpose, it ought not to be cut oftener than every fourth year. In Cornwall, and many other parts of England, it is used for heating ovens, which it does very soon, burning rapidly, and with a great degree of heat; it was also used for burning lime; but since the general diffusion of coal by canals and improved roads, its relative importance for fuel is greatly diminished. It has been recommended as a green food for cattle; for this purpose the shoots should not be more than two years old, and they require to be passed between rollers, or beaten by a mallet, to bruise the ligneous parts and the thorns. Horses are said to be exceeding fond of it, but it should be used soon after it has been bruised.—Dr. ANDERSON says, that cattle eat it perfectly well when thoroughly bruised, and grow as fat upon it as upon turnips. It is said that furze contains *salt,* which is the reason that horses and cattle fed on it soon get a clear skin.

Provence appears to be the boundary south, of furze; northwards it does not grow in Sweden or Russia. LINNÆUS lamented that he could hardly preserve it alive in a green-house; it is reported, that when this great man came to England, in 1736, he was so much delighted with the golden blossoms of this shrub, which he saw for the first time on the commons near London, that he fell on his knees in a transport of admiration, and offered up a prayer of thanksgiving to the great Author of Nature. It was with this plant that the late Sir JAMES EDWARD SMITH commenced the study of Botany. "I became desirous at the age of eighteen," says this excellent Botanist, "of studying Botany as a science. The only book I could then procure was Berkenhout, Hudson's *Flora* having become extremely scarce. I received Berkenhout on the 9th of January, 1778, and on the 11th began, with infinite delight, to examine the *Ulex Europæus,* the only plant then in flower. I then first comprehended the nature of systematic arrangement and the LINNÆAN principles, little aware that at that instant the world was losing the great genius, who was to be my future guide, for LINNÆUS died in the night of January the 11th, 1778." Vide Tr. of Linn. Soc. v. vii. p. 299. "After the decease of the younger LINNÆUS, in 1783, Sir J. E. SMITH purchased the Museum, Books, &c. of the immortal Swede. Since the death of Sir JAMES," which took place on the 17th of March, 1828, "they have become the property of the Linnean Society—a society formed under the immediate auspices of Sir JAMES, its first President. Of this enthusiastic and learned Botanist, we can truly say with SPRENGEL, that he proved himself '*dignissimus Linnæi hæres.*'" Nat. Poetical Companion, p. 89.

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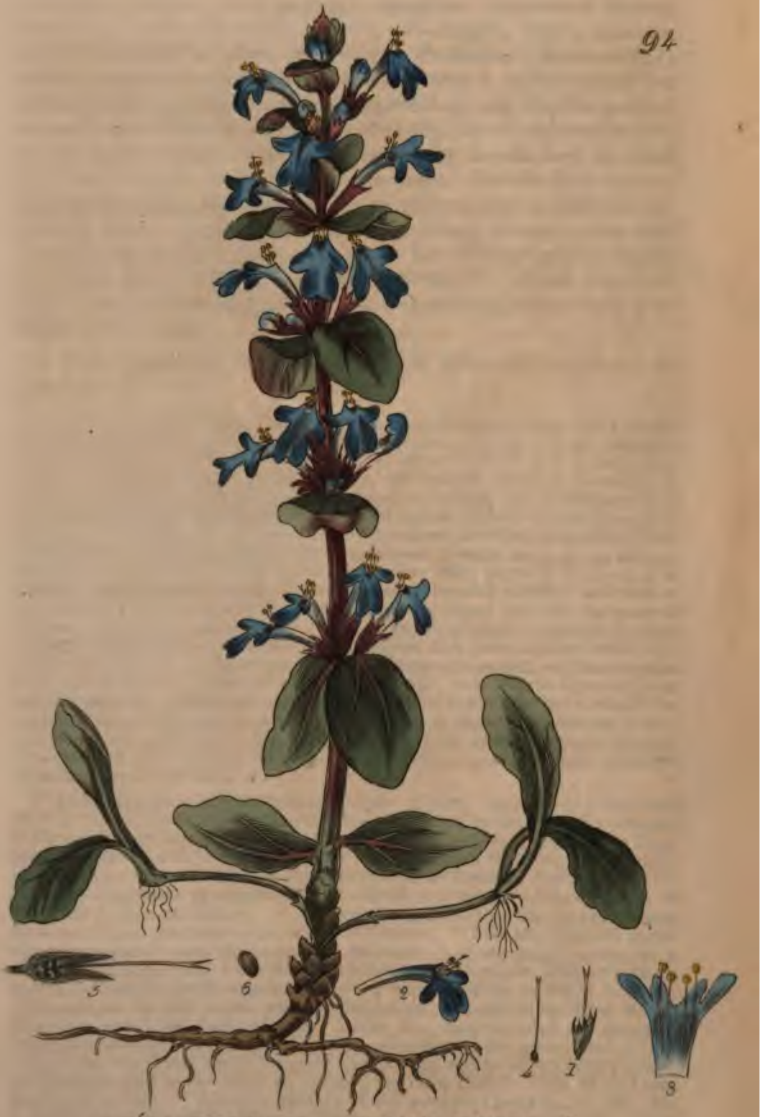

AJÚGA REPTANS. *COMMON BUGLE.* ♃

I.R. Del. Pub^d by W. Baxter. Botanic Garden. Oxford. C. Mathews Sc.

A'JUGA*.

Linnean Class and Order. DIDYNA'MIA†, GYMNOSPE'RMIA‡.

Natural Order. LABIA'TÆ, Juss. Gen. Pl. p. 110.—Sm. Gram. of Bot. p. 99. Eng. Fl. v. iii. p. 63.—Lindl. Syn. p. 196; Introd. to Nat. Syst. p. 239.—Bentham, in Bot. Reg. (1829).—Rich. by Macgilliv. p. 439.—Loud. Hort. Brit. p. 528.—VERTICILLA'TÆ of Ray and of Linnæus.

GEN. CHAR. *Calyx* (fig. 1.) of 1 sepal, divided about half way down into 5, nearly equal segments, permanent. *Corolla* (fig. 2.) of 1 petal, gaping (ringent); *tube* sometimes inflated at the base, not quite straight. *Upper lip* very short, upright, blunt, notched; *lower lip* large, spreading, 3-lobed; the central lobe either undivided or inversely heart-shaped; lateral ones small. *Filaments* (fig. 3.) 4, 2 longer than the other 2 (didynamous), longer than the upper lip, shorter than the lower, incurved. *Germen* (figs. 4 & 5.) superior, of 4 rounded lobes. *Style* (figs. 4 & 5.) incurved. *Stigma* (see fig. 5.) in 2 pointed, spreading segments. *Seeds* (fig. 6.) 4, rugged, oblong, rounded, in the bottom of the unaltered calyx.

The very minute *upper lip* of the *corolla* will distinguish this from other genera, with a nearly regular 5-cleft calyx, in the same class and order.

Four species British.

A'JUGA RE'PTANS. Common Bugle. Sickle Wort. Herb Carpenter.

SPEC. CHAR. Plant nearly smooth; Stem solitary, with creeping stolones. Lower lip of the corolla 4-cleft.

Eng. Bot. t. 489.—Curt. Fl. Lond. t. — .—Linn. Sp. Pl. p. 785.—Huds. Fl. Angl. (2nd ed.) p. 248.—Sm. Fl. Brit. v. ii. p. 604. Eng. Fl. v. iii. p. 65.—With. (7th ed.) v. iii. p. 693.—Lindl. Syn. p. 198.—Hook. Brit. Fl. p. 273.—Lightf. Fl. Scot. v. i. p. 302.—Sibth. Fl. Oxon. p. 180.—Abbot's Fl. Bedf. p. 125.—Purt. Midl. Fl. v. i. p. 270.—Relh. Fl. Cant. (3rd ed.) p. 231.—Hook. Fl. Scot. p. 179.—Grev. Fl. Edin. p. 128.—Curt. Brit. Entomol. v. iii. t. 139!—Fl. Devon. pp. 96 & 143.—Johnston's Fl. Berw. v. i. p. 129.—Perry's Pl. Varv. Selectæ, p. 48.—Walk. Fl. of Oxf. p. 160.—Bab. Fl. Bath. p. 39.—Mackay's Catal. of Pl. of Ireland, p. 54.—*Bugula reptans*, Gray's Nat. Arr. v. ii. p. 367.—*Bugula*, Ray's Syn. p. 245.—Johnson's Gerarde, p. 631.

LOCALITIES.—In woods, and moist pastures. Common.

Perennial.—Flowers in April and May.

Root somewhat woody, sending out many long fibres. *Stem* solitary, simple, upright, quadrangular, leafy, from 6 to 8 or 10 inches high, purplish, the angles sharp, and often hairy. *Stolones*§

Fig. 1. Calyx and Pistil.—Fig. 2. Corolla and Stamens.—Fig. 3. The same, opened longitudinally, to show the stamens, a little magnified.—Fig. 4. Germen, Style, and Stigma.—Fig. 5. Germen, Style, and Stigma, with part of the Calyx, a little magnified.—Fig. 6. A Seed.

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* From *Abiga*, (*Abigo*, to drive away), of the Latins, a medicinal plant allied to this. Dr. HOOKER.

† See *Lamium album*, folio 31, note †.

‡ See folio 31, note ‡, and second page of the same folio.

§ *Stolo, a sucker*, or kind of stem, which runs on the surface of the ground, and strikes root at every joint.

(runners) long and slender. *Leaves* inversely egg-shaped, somewhat scolloped, veiny; the lower ones tapering into *footstalks;* the upper ones sessile, nearly entire; those accompanying the flowers becoming gradually smaller and shorter as they approach the top, often purplish. *Flowers* in whorls, from the axils of the leaves. Segments of the *calyx* hairy. *Corolla* blue, sometimes white or flesh-coloured, hairy on the outside; lower lip 4-cleft. The white flowered variety is said to abound in the Isle of Wight. In dry mountainous situations the plant becomes somewhat hairy.

Common Bugle has been considered by the old writers as an excellent vulnerary, both internally and externally; hence the French had this expression: *Those who have Bugle, and Sanicle, need no surgeon.*—The Rev. R. Walker observes, in his *Flora of Oxfordshire,* that almost any other leaf would probably answer the same purpose of excluding the air, and healing a wound, by what surgeons call the *first intention.* It is numbered amongst cooling and gently astringent vegetables, but its virtues are as yet but slightly ascertained. In sore throats, without much constitutional derangement, it is said to be a specific; and some foreign Physicians of eminence have recommended a decoction of it in the quinsy.

The Labia'tæ form one of the most natural families in the vegetable kingdom. The plants which compose it are either *herbaceous,* or slightly *shrubby.* Their *stems* are 4-cornered, with opposite ramifications. Their *leaves* opposite, simple, entire or serrated, sometimes divided; without stipulæ; replete with receptacles of aromatic oil. Their *flowers* are produced in opposite, nearly sessile, axillary cymes, resembling whorls; sometimes as if capitate. Their *calyx* (fig. 1.) is inferior, tubular, 5- or 10-toothed, permanent, the odd tooth being next the axis; regular or irregular. Their *corolla* (fig. 2.) is monopetalous, inferior, 2-lipped; the upper lip undivided or bifid, overlapping the lower, which is larger and 3-lobed. The *stamens* (fig. 3.) are 4 in number, 2 of which are shorter than the other 2 (didynamous), inserted upon the corolla, alternately with the lobes of the lower lip; the 2 upper sometimes wanting (see *Salvia,* t. 65); *anthers* 2-celled; sometimes apparently 1-celled, in consequence of the confluence of the cells at the apex; sometimes one cell is altogether obsolete, or the 2 cells separated by a bifurcation of the connectivum *. The *ovarium (germen)* is deeply 4-lobed, and seated in a fleshy hypogynous (inferior) disk; the lobes each containing one upright *ovulum.* The *style* is simple, proceeding from the base of the lobes of the ovarium, and terminated by a bifid, usually pointed *stigma.* The *fruit* is composed of from 1 to 4 small nuts, enclosed within the permanent calyx. The *seeds* are upright, with little or no albumen; an upright *embryo;* and flat *cotyledons.*

The plants of this family contain an aromatic volatile oil, camphor, and a bitter extractive, which render them stomatic, stimulant, and tonic. No poisonous or deleterious species has been found amongst them. See *Rich. by Macgillv.* and *Lindl. Synopsis.*

An arrangement of the genera of the Labiatæ has been published by Mr. Bentham in the *Botanical Register,* folios 1282, 1289, 1292, and 1300.

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* The solid substance which connects the two lobes of the anther, and which is in fact a continuation of the filament, as the midrib of a leaf is of the petiole (or leaf-stalk). Dr. Lindley.

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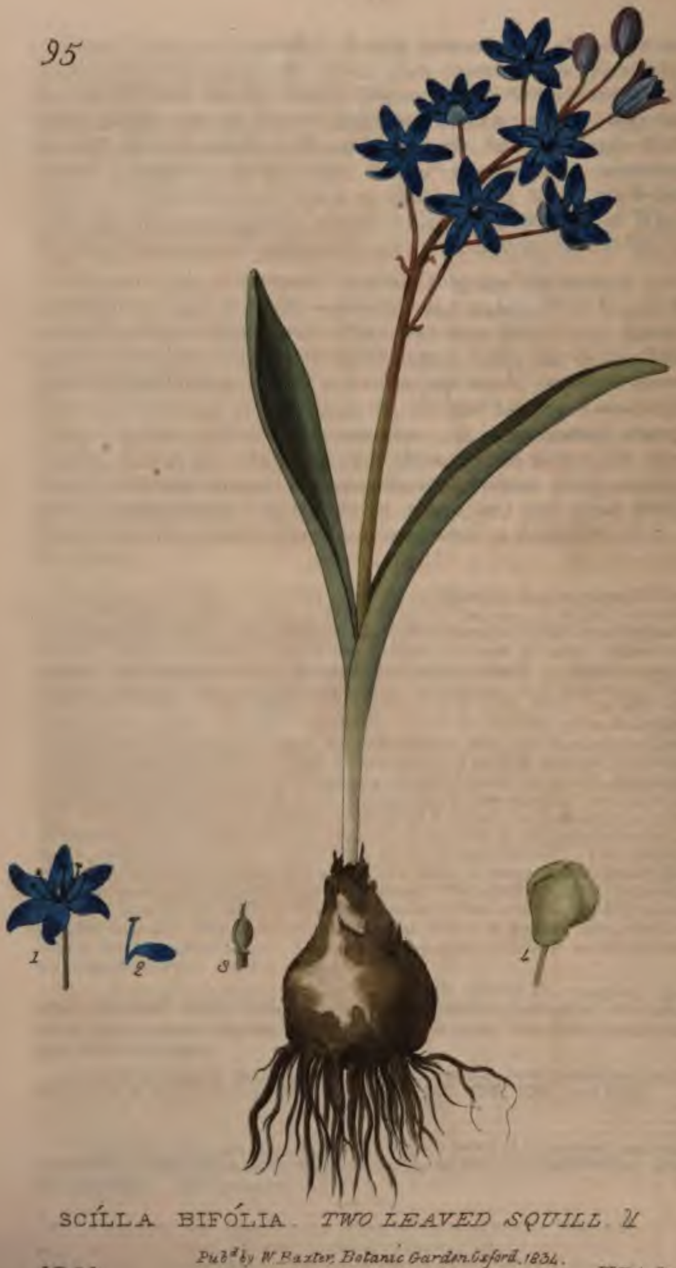

SCÍLLA BIFÓLIA. *TWO LEAVED SQUILL.* ♃

Pub^{d} by W. Baxter, Botanic Garden Oxford, 1834.

I.R. Del. W.E.A. Sc.

SCI'LLA*.

Linnean Class and Order. HEXA'NDRIA†, MONOGY'NIA.

Natural Order. ASPHODE'LEÆ‡, *Dr. R. Brown.*—Lind. Syn. p. 266; Introd. to Nat. Syst. p. 273.—Loud. Hort. Brit. p. 539.—ASPHO'DELI, Juss. Gen. Pl. p. 51.—Sm. Gram. of Bot. p. 74.—LILIA'CEÆ, Rich. by Macgilliv. p. 403.

GEN. CHAR. *Calyx* none. *Corolla (perianthium*§*)* (fig. 1.) inferior, of 6 spreading, deciduous petals. *Filaments* (see figs. 1 & 2.) 6, thread-shaped, smooth, attached to the base of the petals. *Anthers* oblong, incumbent. *Germen* (fig. 3.) superior, roundish. *Style* simple, shorter than the stamens, deciduous. *Stigma* simple. *Capsule* (fig. 4.) nearly egg-shaped, smooth, with 3 furrows, 3 cells, and 3 valves, each valve with a central dissepiment or partition. *Seeds* roundish.

Distinguished from other genera, with a naked inferior *corolla*, in the same class and order, by the *corolla* of 6 spreading deciduous petals; the smooth, thread-shaped filaments inserted at the base of the petals; the 3-celled *capsule;* and roundish seeds. The *corolla* of 6 spreading deciduous petals, will distinguish *Scilla* from *Hyacínthus* (t. 74), and *Múscari* (t. 92).

Three species British.

SCI'LLA BIFO'LIA. Two-leaved Squill. Star-Hyacinth.

SPEC. CHAR. Bulb coated. Cluster slightly corymbose. Bracteas none, or very minute. Flowers nearly upright. Leaves spear-shaped, mostly two.

Engl. Bot. t. 24.—Linn. Sp. Pl. p. 443.—Jacquin's Floræ Austriacæ, v. ii. p. 11. t. 117.—Sm. Fl. Brit. v. i. p. 365. Eng. Fl. v. ii. p. 146.—Curt. Bot. Mag. t. 746.—With. (7th ed.) v. ii. p. 429.—Annals of Botany, v. i. p. 104.—Gray's Nat. Arr. v. ii. p. 178.—Lindl. Syn. p. 269.—Hook. Brit. Fl. p. 156.—*Hyacinthus stellaris bifolius Germanicus*, Rudb. Campii Elysii, v. ii. p. 33. f. 1.; also f. 2 & 3.—*Hyacinthus stellatus Fuchsii*, Johnson's Gerarde, p. 106.

LOCALITIES.—In groves in the west of England, but very rare: *Engl. Fl.*—Sir JAMES EDWARD SMITH first introduced this species into *English Botany*, on the authority of BUDDLE's Herbarium, in the British Museum; but it has since been received from the west of England, by Mr. SIMS, Druggist, of Norwich: *Sm. Fl. Brit.*

Perennial.—Flowers in March and April.

Bulb tunicated, egg-shaped. *Leaves* seldom more than two from the same bulb, upright, spear-shaped, bluntish, concave, slightly keeled. *Scape (stalk)* from the centre of the bulb, a little taller than the leaves, upright, round. *Cluster (raceme)* inclining, somewhat corymbose. *Bracteas* very small, sometimes altogether

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Fig. 1. Corolla, Stamens, and Germen.—Fig. 2. A Petal and a Stamen.—Fig. 3. Germen and Pistil.—Fig. 4. A Capsule.

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[*] From *scullo*, Gr. *to injure;* in Arabic also, *ásgyl.* Dr. HOOKER.

[†] The sixth class in the LINNEAN Artificial System; it comprehends those plants which have perfect flowers, with 6 distinct equal stamens in each.

[‡] See *Gágea lutea*, folio 41, a. [§] See *Galanthus nivalis*, fol. 33, note ‡.

wanting. *Flowers* from 4 to 10, upright, scentless; the lower ones generally on the longest stalks. *Petals* egg-shaped, bluntish, widely spreading, of a beautiful lightish blue colour, rarely varying to pink or white. *Stamens* thread-shaped, equal, shorter than the petals, to the base of which they are slightly attached. *Anthers* brownish.

This elegant little plant, which has not, that I have heard, been found wild in any part of Britain except in the locality above mentioned, is said to be very common in the neighbourhood of Paris. It is also a native of Germany, Switzerland, and Austria; and has been cultivated in our gardens, which it enlivens with its beautiful blue flowers early in the Spring, ever since the time of Gerarde, in 1597.—RUDBECK§ has figured a variety of this with 3 leaves, which he calls *Hyacinthus stellaris trifolius;* and another with white flowers, *Hyacinthus stellaris albus.* See his *Campii Elysii,* v. ii. p. 33. figs. 2 & 3. The variety with 3 leaves is not unfrequently met with in gardens; the white-flowered variety is more uncommon.

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§ OLAUS RUDBECK was professor of Botany at Upsal, he was a man of very extensive learning; in antiquities, especially those of the northern nations, and in the learned languages, his knowledge is said to have been unbounded. He was a good Anatomist, and an excellent Botanist, and, in this science he had, says Sir J. E. SMITH, erected to himself what might reasonably have been thought a " monumentum ære perennius," in one of the greatest undertakings of the kind, a collection of fine wooden cuts of all the plants then known. They were to have been arranged and named according to BAUHIN's *Pinax*, in 12 large volumes folio; but two volumes were scarcely printed, when, in 1702, a dreadful fire, which laid almost all Upsal in ashes, destroyed his work, together with many thousand wooden blocks already cut; besides his herbarium, &c. Grief for their loss is supposed to have occasioned his death, which happened on the 12th of December, 1702. He was assisted in his great work above mentioned, by his son, OLAUS RUDBECK, who succeeded him as Professor of Botany at Upsal. All that now remains of this work are three copies of the first, and six of the second volume; these are now considered as great curiosities. A copy of each of these two volumes is in the Sherardian Library in the Oxford Botanic Garden.

LINNÆUS was possessed of about 120 of the wooden blocks of the first volume, as well as 8 or 10 unpublished blocks belonging to some intended one; all which came, with his collection, into the hands of Sir J. E. SMITH; they are most of them admirable figures of the Grasses. These Sir J. E. SMITH published under the title of *Reliquiæ Rudbeckianæ,* folio, 1789. See *Tr. of Linn. Soc.* v. i. p. 22; and *Loud. Gard. Mag.* v. x. p. 111.

A foreign genus of Sygenecious Plants, many handsome species of which are now common in our gardens, was named *Rudbeckia* by LINNÆUS, after this meritorious Botanist.

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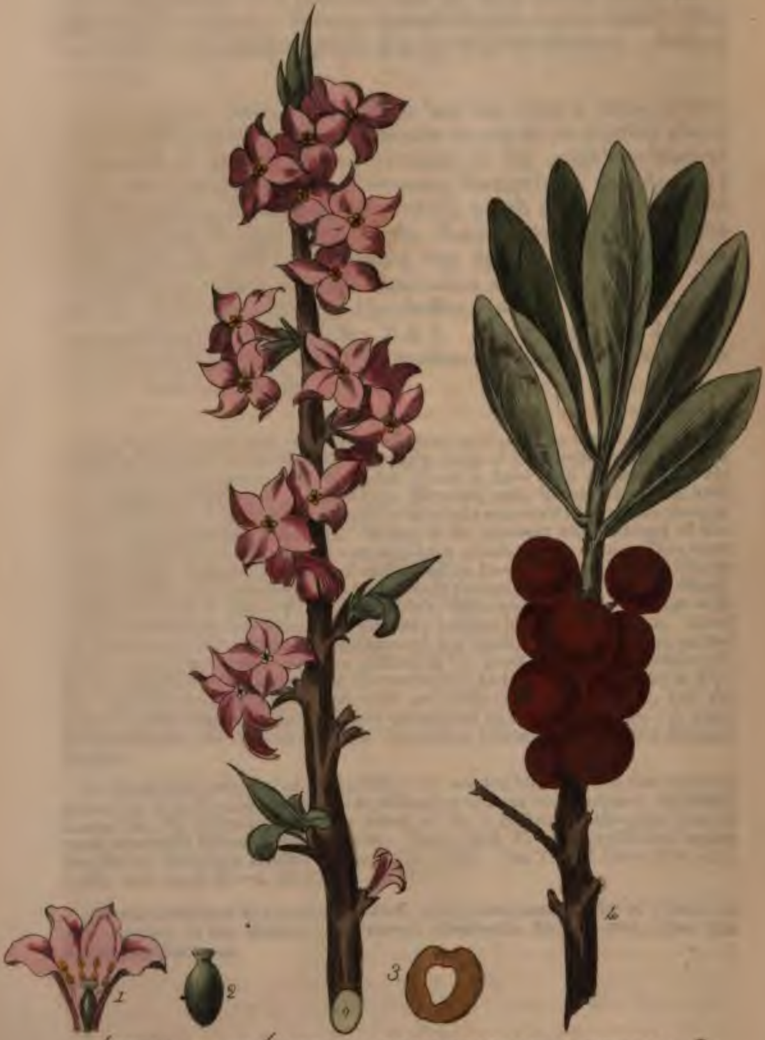

DÁPHNE MEZÉREUM. *COMMON MEZEREON* ♄

Pub.d by W. Baxter Botanic Garden. Oxford 1834

J.R.Del. *C.M.Sc*

DA'PHNE*.

Linnean Class and Order. OCTA'NDRIA†, MONOGY'NIA.

Natural Order. THYME'LÆÆ, Juss. Gen. Pl. p. 76.—Sm. Gram. of Bot. p. 87.—Lindl. Syn. p. 208; Introd. to Nat. Syst. p. 75.—Rich. by Macgilliv. p. 421.—Loud. Hort. Brit. p. 532.

GEN. CHAR. *Calyx* (fig. 1.) inferior, monosepalous (of 1 sepal), resembling a Corolla, tubular, withering; tube cylindrical, longer than the limb, closed, containing the stamens; limb in 4 deep, egg-shaped, spreading, coloured segments. *Corolla* none. *Filaments* (see fig. 1.) 8, short, in two rows, from about the middle of the tube. *Anthers* roundish, 2-celled, upright, contained within the tube. *Germen* (fig. 2.) superior, egg-shaped. *Style* (see figs. 1 & 2.) very short, terminal. *Stigma* (see figs. 1 & 2.) capitate, depressed, entire. *Berry* (fig. 3.) oval, of 1 cell. *Seed* solitary, pendulous, oval, large, with a thin brittle skin.

Distinguished from other genera, with *apetalous* flowers, (*flowers destitute of petals*), in the same class and order, by the coloured, 4-cleft, inferior *calyx*, and single seeded *berry*.

Two species British.

DA'PHNE MEZE'REUM. Common Mezereon. Spurge-olive. Dwarf Bay.

SPEC. CHAR. Flowers lateral, sessile, about three together, appearing before the spear-shaped, deciduous leaves.

Eng. Bot. t. 1381.—Linn. Sp. Pl. p. 509.—Huds. Fl. Angl. (2nd ed.) p. 167.—Woodv. Med. Bot. v. i. p. 68. t. 23.—Sm. Fl. Brit. v. i. p. 420. Eng. Fl. v. ii. p. 228.—With. (7th ed.) v. ii. p. 489.—Lindl. Syn. p. 209.—Hook. Brit. Fl. p. 181.—Purt. Midl. Fl. v. iii. p. 33.—Walk. Fl. of Oxf. p. 111.—Bab. Fl. Bath. p. 44.—*Dáphne flórida*, Gray's Nat. Arr. v. ii. p. 265.—*Chamælea Germanica, sive Mezereon*, Johnson's Gerarde, p. 1402.

LOCALITIES.—In woods. Very rare.—*Oxfordsh.* In Wychwood Forest: Mr. ISSAC WHEELER.—*Berks;* Appleton Common: Dr. WILLIAMS, Professor of Bot. Oxford. Eaton Stibble, and Appleton Common: Mr. H. BARRETT.—*Derbysh.* Matlock, Chee Tor: Mr. COKE, in Bot. Guide.—*Dorsetsh.* In divers parts of Cranbourne Chace: Dr. PULTENEY, ibid.—*Durham*; Naturalized among the Tunstall Hills, south of Sunderland: Mr. WINCH.—*Gloucestersh.* Stream side in the dingle above Ebworth fish-ponds, Painswick: Mr. O. ROBERTS.—*Hampsh.* In Selborne Hanger, among the shrubs at the south-east end above the cottages: Rev. G. WHITE. Woods near Andover, plentifully: *Miller.*—*Somersetsh.* In Brass Knocker Wood, near Bath: Dr. DAVIS, in Fl. Bath.—*Staffordsh.* In Needwood Forest: Mr. PITT.—*Wilts;* About Great Bedwyn: W. BARTLETT, Esq.—*Worcestersh.* About Eastham and Stanford: Rev. EDW. WHITEHEAD, Corpus Christi College.—*Yorksh.* In Oldfield Wood, near Ripon, doubtful if wild: Mr. BRUNTON. On an island in the Swale, now perfectly wild: L. E. O. in Loud. Mag. of Nat. Hist. v. iii. p. 169.

A Shrub.—Flowers in February and March.

Stem bushy, 4 or 5 feet high, with upright, alternate, smooth, tough and pliant branches, which are leafy while young. *Leaves* scattered, stalked, spear-shaped, smooth, about two inches long, appearing after the flowers, and soon accompanied by flower-buds

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Fig. 1. Calyx, Stamens, and Pistil.—Fig. 2. Germen, Style, and Stigma.—Fig. 3. Vertical section of the Berry.—All a little enlarged.

* So named in allusion to the Nymph *Daphne*, who was changed into a *Laurel;* some of the plants of this genus having the habit of Laurels. HOOKER.

† See *Adoxa moschatéllina*, folio 42, note †.

for the next season. The *Flowers* come out very early in the Spring, before the leaves appear, and are situated on the shoots of the former year, in little tufts, which are often so thickly placed as to entirely conceal the branches. *Bracteas* several, egg-shaped, smooth, brown. *Corolla* none. *Calyx (*or *perianthium)* like a corolla in texture, of a beautiful crimson-colour ; the tube hairy on the outside. *Berries*, when ripe, scarlet, not quite so large, nor quite so globular as represented in the accompanying plate.

There is a variety with white *flowers ;* and the *berries* also vary to a yellow or orange colour.

The *Mezereon* is one of our most early flowering shrubs, and one of the greatest ornaments to our gardens in the months of February and March, when it is, as Cowper says,

> " Though leafless, well attired, and thick beset
> With blushing wreaths, investing every spray."

The flowers are very sweet scented, and where there are many together, they will perfume the air to a considerable distance. It is observed by Mr. Phillips, that " Nature, whose works never cease to excite our admiration, astonishes us by the wonders contained in the buds of this plant, where not only the flowers, but the parts of fructification may be distinctly seen the year before they unfold themselves." To this fact I can myself bear testimony, for having this afternoon, June 25, 1834, carefully dissected one of the buds, I could discern, with the help of a common pocket lens, the flower, and also the pistil and stamens, very distinctly.

The plant is extremely acrid, especially when fresh, and if retained in the mouth excites great and long continued heat and inflammation, particularly of the throat and fauces; the berries also have the same effects, and, when swallowed, prove a powerful corrosive poison, not only to man, but to dogs, wolves, foxes, &c.; yet they are attractive to singing birds, especially to the several species of Finch *(Loxia)*. Dr. Swediaur informs us, that the antidote to this potent poison is camphor. The branches afford a yellow dye. An ointment prepared from the bark or the berries has been successfully applied to ill-conditioned ulcers. In France and the Peninsula the bark, macerated a little in vinegar, is applied to the skin to promote a discharge as a perpetual blister; and is also occasionally serviceable, when masticated, as a remedy for the tooth-ache. It is used by fraudulent brewers to communicate an intoxicating quality and strong taste to weak beer; a practice worthy of execration. See *Wither. Bot. Arr.* and *Woodv. Med. Bot.*

The *Natural Order*, Thyme'lææ, of which *Daphne* is the only British example, is composed of dicotyledonous *shrubs*, rarely *herbaceous plants*, with tenacious bark. The *leaves* have no stipulæ, and are either alternate or opposite, and entire. The *flowers* are capitate or spiked, terminal or axillary, occasionally solitary. The *calyx* is inferior, coloured and petal-like, more or less tubular, with 4 or 5 divisions, which are imbricated before expansion. They have no *corolla*, but the calyx is sometimes furnished with scales in the orifice, as in the exotic genus *Gnidia*. The *stamens* are definite, inserted in the tube or its orifice, generally 8 in number, sometimes 4, less frequently 2; when equal in number to the segments of the calyx or fewer, opposite to them ; the *anthers* are 2-celled, opening lengthwise in the middle. The *ovarium* is solitary, and contains a single pendent ovulum. The *style* is simple; and terminated by an equally simple *stigma*. The *fruit* is hard, dry, and nut-like, or drupaceous. The *albumen* is thin and fleshy, sometimes wanting. The *embryo* is straight, and reversed; the *cotyledons* plano-convex; the *radicle* short and superior; and the *plumula* inconspicuous. See *Lind. Syn.* and *Rich. by Macgilliv.*

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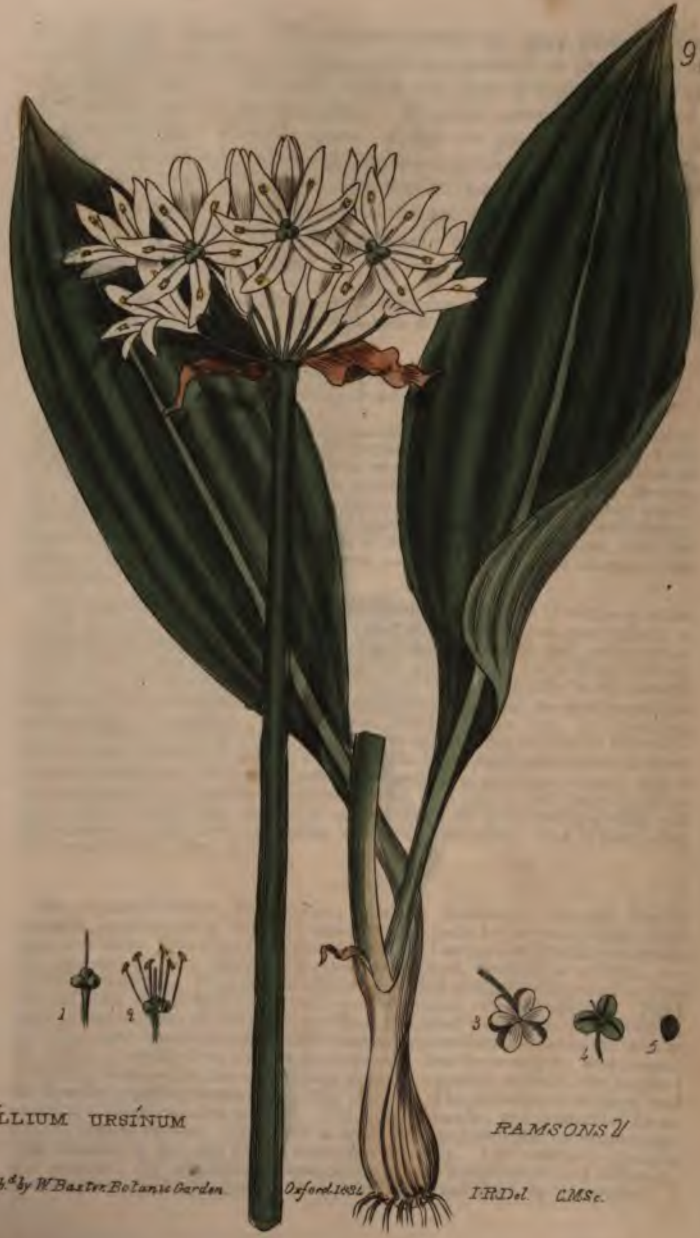

ÁLLIUM URSÍNUM

RAMSONS ♃

Pub.d by W. Baxter Botanic Garden Oxford 1834 I.R.Del. C.M.Sc.

A'LLIUM[*].

Linnean Class and Order. HEXA'NDRIA[†], MONOGY'NIA.

Natural Order. ASPHODE'LEÆ[‡], *Dr. R. Brown.*—Lind. Syn. p. 266; Introd. to Nat. Syst. p. 273.—Loud. Hort. Brit. p. 539.—ASPHO'DELI, Juss. Gen. Pl. p. 51.—Sm. Gram. of Bot. p. 74.—LILIA'CEÆ, Rich. by Macgilliv. p. 403.

GEN. CHAR. *Calyx* none. *Corolla (perianthium*[§]*)* inferior, of 6 oblong or egg-shaped, somewhat spreading petals, regular; the 3 innermost petals rather the smallest. *Filaments* (fig. 2.) 6, awl-shaped, more or less flattened, simple or 3-cleft, about as long as the corolla. *Anthers* solitary, central, oblong, incumbent. *Germen* (fig. 1.) superior, turbinate, short, angular, or lobed. *Style* (fig. 1.) simple, cylindrical or angular, upright. *Stigma* pointed. *Capsule* (fig. 4.) short and broad, with 3 lobes, 3 cells, and 3 membranous valves with central partitions (see fig. 3). *Seeds* (fig. 5.) few, roundish, angular, and covered with a black brittle skin. *Flowers* in terminal umbels, arising from a 2-leaved *spatha.* Some *bulbs* are often intermixed with the flowers.

Distinguished from other genera, with a naked, inferior *corolla,* in the same class and order, by the *corolla* of 6 oblong or egg-shaped, spreading *petals;* the awl-shaped, flattened *filaments;* the pointed *stigma;* and the angular *seeds.*

Seven species British.

A'LLIUM URSI'NUM[‖]. Bear's Garlick. Broad-leaved Garlick. Ramsons.

SPEC. CHAR. Scape triangular; umbel without bulbs, level-topped; stamens simple; leaves between egg-shaped and spear-shaped, on footstalks.

Eng. Bot. t. 122.—Johnson's Gerarde, p. 179.—Linn. Sp. Pl. p. 431.—Huds. Fl. Angl. (2nd ed.) p. 140.—Sm. Fl. Brit. v. i. p. 359. Eng. Fl. v. ii. p. 137.—With. (7th ed.) v. ii. p. 423.—Lindl. Syn. p. 268.—Hook. Brit. Fl. p. 154.—Lightf. Fl. Scot. v. i. p. 179.—Sibth. Fl. Oxon. p. 110.—Abbot's Fl. Bedf. p. 74.—Purt. Midl. Fl. v. i. p. 169.—Relh. Fl. Cant. (3rd ed.) p. 138.—Hook. Fl. Scot. p. 101.—Grev. Fl. Edin. p. 76.—Curt. Brit Entomol. v. viii. t. 366.—Fl. Devon. pp. 58 & 130.—Johnston's Fl. of Berw. v. i. p. 77.—Rev. G. E. Smith's Pl. of S. Kent, p. 21.—Walk. Fl. of Oxf. p. 92.—Perry's Pl. Varv. Selectæ, p. 29.—Mack. Catal. of Pl. of Irel. p. 33.—Bab. Fl. Bath. p. 51.—*Allium sylvestre latifolium*, Ray's Syn. p. 370.—*Molly latifolia*, Gray's Nat. Arr. v. ii. p. 180.

LOCALITIES.—In moist woods, hedges, and meadows. Frequent.—*Oxfordsh.* Plentiful in Stow Wood; Headington-Wick Copse: Dr. SIBTHORP, 1794. In the same places: 1830, W. B. In a copse near Norton Windmill, Bicester: Mr. G. WOODWARD, 1834.—*Bedfordsh.* Whipsnade, near Dunstable: Rev.

Fig. 1. Germen, Style, and Stigma.—Fig. 2. Stamens, &c.—Fig. 3. Capsule after it has discharged the seeds.—Fig. 4. Capsule before it opens.—Fig. 5. A Seed.

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[*] From the Celtic *all*, which signifies *acrid, burning.* Dr. HOOKER.—Dr. WITHERING thinks it is probably derived from *aleo*, Gr. *to shun or avoid;* the smell being disagreeable to many.

[†] See *Múscari racemósum*, fol. 92, n. †.

[‡] See *Gágea lútea*, fol. 41, a.

[§] See *Galánthus nivális*, fol. 33, n. ‡.

[‖] *Bear's* or *bearish*, Lat.; the coarseness of its qualities, like the manners of some human beings, may, in both cases, justify a comparison. Sir J. E. SMITH, in Eng. Fl.

C. Abbot.—*Cambridgesh.* Ditton, and Hinton: Rev. R. Relhan.—*Cheshire;* Fields about Runcorn: Dr. Withering.—*Cumberland;* On Ramp's Holm, an island of Derwent Water, so called from being covered with this plant: Mr. Winch.—*Devon;* About Chudleigh: Rev. J. P. Jones, in Bot. Tour. Road-side near Ashburton; banks of the Teign and Dart, in various places; near Endsleigh; ditches of the old castle at Totness: Messrs. Jones and Kingston.—*Kent;* Among the Alders near Hernhill-Church, Feversham, plentifully: Mr. E. Jacob. Below Postling Wood, at the east base of Castle-Hill, Folkstone: Rev. G. E. Smith.—*Leicestersh.* Sheet hedges and other woods adjoining Grooby Pool, near Leicester: Rev. A. Bloxam, in Loud Mag. of Nat. Hist. v. iii. p. 167.—*Middlesex;* In a meadow near Gulchwell; Hendon-Place near the church; and about Kentish Town: Dr. Martyn.—*Northamptonsh.* In woods on the south side of Cliff; Suly, near the lodge; and Whittlewood Forest: Morton.—*Notts;* In Colwick Wood, going from Colwick Spring towards the Park: Dr. Deering.—*Somersetsh.* In hedges on Charmy Down, and in Warley, and other woods near Bath: Rev. C. C. Babington. By the road-side between Axbridge and Cross: Dr. Withering. Castle Ground, and river-side, near Taunton: Miss Bliss.—*Warwicksh.* In Spernall and Oversley Woods; on moist ditch-banks at Hay House, Castle Bromwick, in great plenty: Mr. T. Purton. Several meadows near Penn's Mill, at Erdington, abound so much with this plant, as to be called the Garlic Meadows: Dr. Withering.—*Wilts;* Near Great Bedwyn: W. Bartlett, Esq.—WALES. In the Isle of Anglesea: Rev. H. Davies.—SCOTLAND. At Drumlanrig in Nithsdale; in the woods at Rosslyn Castle, and at Loch Ransa in the Isle of Arran; Rev. J. Lightfoot. In King's Park, Edinburgh: Mr. D. Steuart and Dr. Graham: Arniston Woods: Dr. Greville.—IRELAND. In woods, common: Mr. J. T. Mackay.

Perennial.—Flowers in May.

Bulb white, oblong, tapering. *Stem* none. *Leaves* only 1 or 2, spear-shaped, about a span long, upright, pointed, broad, smooth, entire, of a bright green colour, with a broadish central rib, and many fine parallel, lateral ones, connected by transverse reticulations. *Petioles (footstalks)* semicylindrical, much shorter than the leaves, and sheathing at the base. *Scape* solitary, triangular, about a foot high, upright, smooth, bearing, at the top, a flattish *umbel* of many pure-white flowers, arising from a 2-leaved *spatha.* *Petals* oblong, pointed, spreading. *Filaments* awl-shaped, simple, slightly attached to the base of each petal. *Germen* 3-lobed. *Style* a little elongated.

This is a handsome species, but it exhales, like most other species of its genus, when bruised, a very strong disagreeable odour. Cows eat it, but it communicates its nauseous flavour to the milk and butter, so as to be very offensive, if not unwholesome, in the Spring. In Khamschatka it is used as a principal anti-scorbutic, as well as for culinary purposes, and is gathered in large quantities for Winter service. An infusion in brandy is esteemed a good remedy for the gravel. It is said that other plants growing near it do not flourish.

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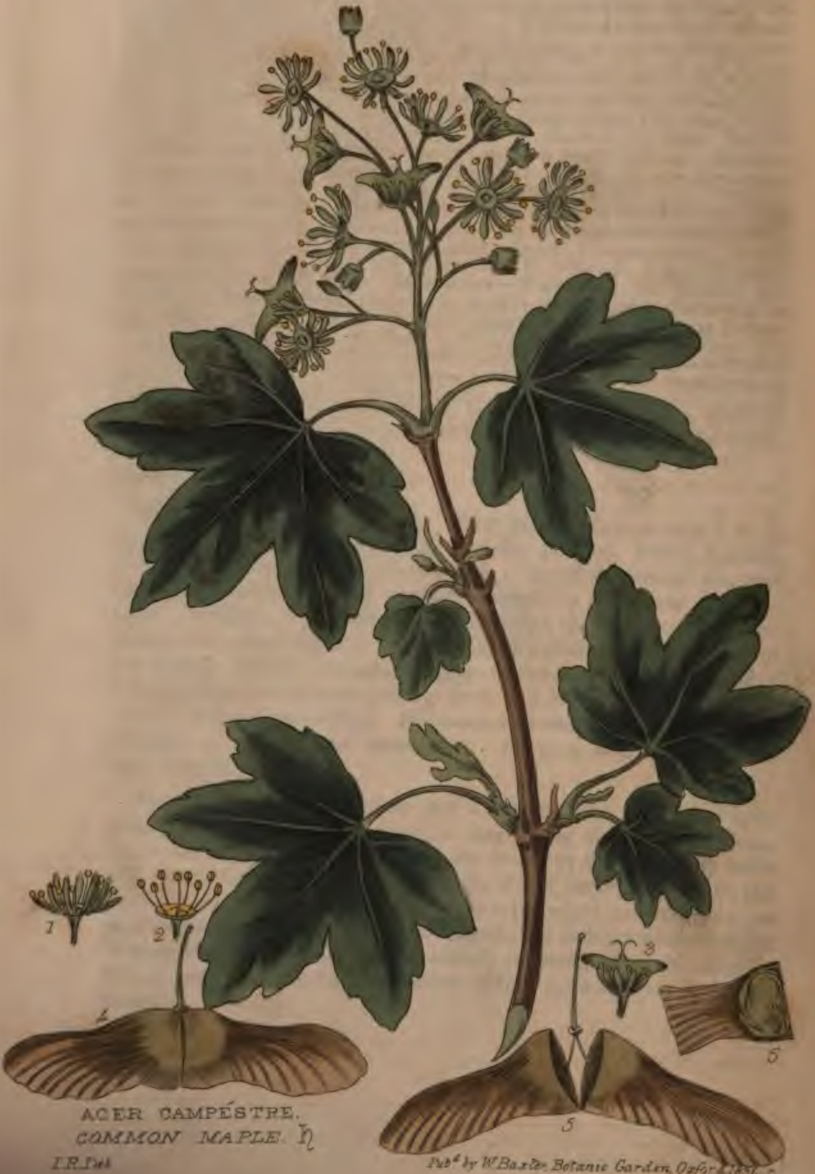

ACER CAMPÉSTRE.
COMMON MAPLE. ♄

I.R. Del.

Pub.d by W. Baxter. Botanic Garden, Oxford 1836. C.M.Sc.

ACER*.

Linnean Class and Order. OCTA'NDRIA†, MONOGY'NIA.

Natural Order. ACERI'NEÆ, *Decandolle.*—Lindl. Syn. p. 55; Introd. to Nat. Syst. p. 117.—Rich. by Macgilliv. p. 489.—Loud. Hort. Brit. p. 505.—ACERA, Juss. Gen. Pl. p. 250.—Sm. Gram. of Bot. p. 141.

GEN. CHAR. *Calyx* inferior, of 1 sepal; flat and orbicular at the base; the margin in 5 deep, pointed, oblong, permanent segments. *Corolla* of 5 inversely egg-shaped petals, of the same size and substance as the segments of the calyx, and alternate with them. *Filaments* (fig. 2.) generally 8, awl-shaped, inserted into the calyx. *Anthers* peltate, roundish, of 2 lobes. *Germen* (fig. 3.) superior, compressed, of 2 lobes. *Style* cylindrical, gradually elongated. *Stigmas* (see fig. 3.) 2 or 3, tapering to a point, slender, reflexed. *Capsules* (figs. 4 & 5.) as many as the stigmas, united at the base, roundish, compressed, each terminating in a firm, membranous, spreading wing, (hence called a samara,) 1-celled. *Seeds* (see fig. 6.) 1 or 2, roundish. *Cotyledons* folded.

The *anthers* are imperfect in some of the flowers, the *pistils* in some others (see figs. 1 and 2), but many flowers are perfect in both organs. The divisions of the calyx, as well as the petals, vary in number, and the stamens accord with them. Sir J. E. SMITH.

The 5-cleft, inferior *calyx;* the *corolla* of 5 petals; and the winged *capsule;* will distinguish this from other genera in the same class and order.

Two species British.

ACER CAMPE'STRE. Common Maple.

SPEC. CHAR. Leaves irregularly 5-lobed, obtuse, somewhat cut. Flowers in upright clusters.

Engl. Bot. t. 304.—Linn. Sp. Pl. p. 1497.—Evelyn's Silva, by Dr. Hunter, p. 191. t. .—Huds. Fl. Angl. (2nd ed.) p. 445.—Sm. Fl. Brit. v. i. p. 422. Eng. Fl. v. ii. p. 231.—With. (7th ed.) v. ii. p. 475.—Gray's Nat. Arr. v. ii. p. 636.—Lindl. Syn. p. 55.—Hook. Brit. Fl. p. 174.—Light. Fl. Scot. v. ii. p. 640.—Sibth. Fl. Oxon. p. 127.—Abbot's Fl. Bedf. p. 220.—Relh. Fl. Cant. (3rd ed.) p. 161.—Purt. Midl. Fl. v. ii. p. 492.—Hook. Fl. Scot. p. 120.—Grev. Fl. Edin. p. 89.—Fl. Devon. pp. 69 & 179.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 649.—Curt. Brit. Entomol. v. vii. t. 328.—Walk. Fl. of Oxf. p. 112.—Bab. Fl. Bath. p. 10.—Mack. Catal. of Pl. of Irel. p. 37.—*Acer minus*, Ray's Syn. p. 470.—Johnson's Gerarde, p. 1484.

LOCALITIES.—In woods, thickets, and hedges.—Common in ENGLAND; rare in SCOTLAND and IRELAND.

A Tree.—Flowers in May and June.

A small tree, the bark of whose trunk and larger *branches*, is corky and full of fissures; that of the younger *branches* smooth. *Leaves* small, opposite, downy while young, on long downy pe-

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Fig. 1. A Flower with Stamens only.—Fig. 2. Stamens and Disk.—Fig. 3. A Flower with both Stamens and a Pistil, showing the Germen, Style, and Stigmas.—Figs. 4 & 5. Capsules or Samaræ.—Fig. 6. One of the Capsules divided to show the seed.

* From *acer*, Lat. *sharp* or *hard*, which comes from *ac*, *a point*, in Celtic. The name is applied to this genus, because the wood is extremely hard, and was formerly much sought after for the purpose of making pikes and lances, &c. Mr. G. DON.

† See *Adoxa Moschatéllina*, folio 42, note †.

tioles (leaf-stalks), divided nearly half way down into 3 principal lobes, with 2 smaller lateral ones; lobes obtuse, notched, sometimes entire. *Clusters (racemes)* terminating the young shoots, hairy, short, and somewhat corymbose. ***Flowers*** pale green. ***Anthers*** hairy between the lobes. ***Capsules (samaræ)*** downy, horizontally spreading nearly in a right line, with smooth, oblong, reddish wings. Mr. KNAPP observes, in the *Journal of a Naturalist*, that "the singular ruggedness of the branches and shoots, when they have attained a year's growth, and the depth of the furrows, give it a strongly marked character among our shrubs. If one of these rugged young shoots be cut through horizontally with a sharp knife, its cork-like bark presents the figure of a star with five or more rays, sometimes irregularly, but generally exactly defined. A thin slice from this surface (see Journ. of a Nat. t. 3. f. 1.) is a beautiful and curious object in the microscope, exhibiting the different channels, and variously-formed tubes, through which the sap flows, and the air circulates for the supply of all the diversified requirements of the plant[‡]."

Maple was formerly the principal wood for all kinds of cabinet work, and, according to EVELYN, the knobs of antient trees affording beautiful and richly variegated specimens were collected by the curious at high prices.—When beautifully veined or spotted, it was much prized by the Romans, and of such were composed the celebrated Tigrin and Pantherine tables; of which some particular specimens, as those of CICERO, ASINIUS GALLUS, KING JUBA, and the Mauritanian PTOLOMY, are said to have been worth nearly their weight in gold. But in modern times it has been in a great degree superseded by mahogany. When allowed to grow to timber, it makes excellent gun-stocks, and screws for cyder-presses. The timber is far superior to that of the beech *(Fagus Sylvatica)* for all uses of the Turner, particularly for dishes, cups, trenchers, and bowls; vessels may be thus produced so thin as to transmit light. When it abounds in knots, as it frequently does, it is highly esteemed by the Joiners for inlaying, &c. and on account of the lightness of the wood, it is often used by musical instrument makers. In the Vale of Gloucester, where oak timber is scarce, it is used for gate-stuff and other purposes; but the principal value of the Maple is for underwood; it is of quick growth, and affords good fuel. The leaves often, in Summer, exhibit a white mouldy aspect, probably occasioned by the interwoven filaments of ***Erysiphe bicornes***, a minute parasitical fungus, the *receptacles* of which I find very commonly interspersed amongst these filaments on the leaves of the Maple in the neighbourhood of Oxford. Two other parasites, ***Rhytisma acerinum***, and ***Erineum purpurescens***, are also not uncommon on the leaves of this tree, the former on the upper, the latter on the under surface. The leaves are also frequently beset with numerous red-coloured spiculæ, occasioned by the puncture of some insect, probably for the formation of a nidus for its young. The caterpiller of the ***Feathered Prominent Moth*** (***Ptilophora Plumigera***, Curt. Brit. Ent. t. 328.) feeds on the foliage of the Maple.

The *Natural Order* ACERI'NEÆ, of which *Acer* is the only British genus, is composed of polypetalous, dicotyledonous *trees*, with simple, rarely pinnate, opposite *leaves*, without stipulæ. Their ***flowers*** are often polygamous, sometimes apetalous, and are disposed in axillary or terminal racemes or corymbs. They are characterized as follows:—*Calyx* divided into 5, or occasionally from 4 to 9 parts, with an imbricated æstivation. ***Petals*** equal in number to the lobes of the calyx, inserted round a hypogynous disk. ***Stamens*** inserted upon a hypogynous disk, generally 8, not often any other number, always definite. ***Ovarium*** (fig. 3.) 2-lobed; ***style*** 1; ***stigmas*** 2; ***fruit*** (figs. 4 & 5.) formed of 2 parts, which are indehiscent and winged; each 1-celled, with 1 or 2 ***seeds***. ***Seeds*** upright, with a thickened lining to the testa. ***Albumen*** none; ***embryo*** curved, with foliaceous wrinkled cotyledons, and an inferior ***radicle***. See Lindl. Synop. p. 55.

[‡] "This species," observes Dr. LINDLEY, "requires careful examination, several curious varieties, some of which have been even considered species, are described by the Botanists of Germany, and probably exist in this country."

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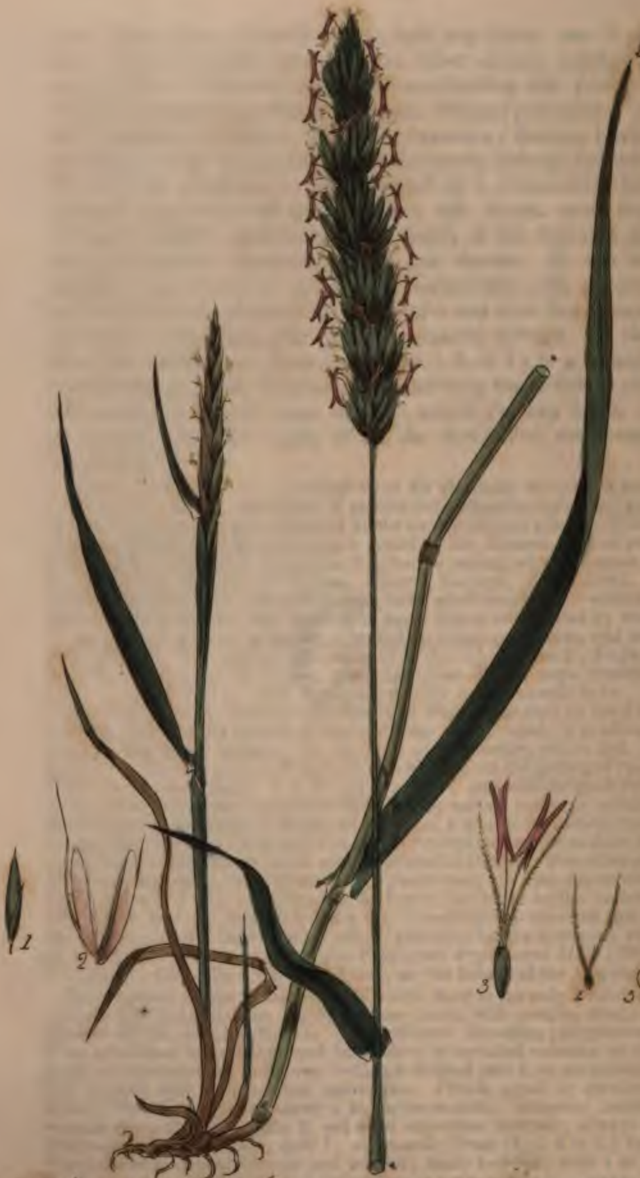

ANTHOXÁNTHUM ODORÁTUM SWEET-SCENTED VERNAL-GRASS. II

Pub^d by W Baxter Botanic Garden, Oxford 1834

C. Mathews Del. & Sc.

ANTHOXA'NTHUM*.

Linnean Class and Order. DIA'NDRIA†, DIGY'NIA.

Natural Order. GRAMI'NEÆ, Juss. Gen. Pl. p. 28.—Sm. Gram. of Bot. p. 68.—Lindl. Syn. p. 293. Introd. to Nat. Syst. of Bot. p. 292.—Loud. Hort. Brit. p. 542.—GRA'MINA, Rich. by Macgilliv. p. 393.—Sm. Eng. Fl. v. i. p. 71.

GEN. CHAR. *Calyx* (fig. 1.) single-flowered, of 2 egg-shaped, pointed, concave glumes (valves); the inner glume the largest. *Corolla* (fig. 2.) of 2 equal paleæ (valves), shorter than the calyx, awned at the back; the longer *awn* jointed. *Nectary* (see fig. 3.) of 2 egg-shaped, thin, minute scales, clasping the base of the germen. *Stamens* (see fig. 3.) hair-like, longer than the corolla. *Anthers* oblong, forked at each end. *Germen* (fig. 4.) superior, oblong. *Styles* (fig. 4.) short. *Stigmas* (fig. 4.) upright, long, downy. *Seed* (fig. 5.) solitary, roundish, acute at each end, naked, unconnected with the glumes (fig. 2.)

Distinguished from other genera in the same class and order, by the *calyx* of 2 glumes, containing 1 flower; the *corolla* of 2 awned paleæ, and the solitary *seed*. And from other British Gramineæ, by having only 2 stamens instead of 3, the usual number in that order.

One species British.

ANTHOXA'NTHUM ODORA'TUM. Sweet-scented Vernal-Grass.

SPEC. CHAR. Panicle spiked, oblong. Flowers longer than their awns, on short stalks.

Engl. Bot. t. 647.—Curt. Fl. Lond. t. 4.—Host's Gram. Aust. v. i. p. 5. t 5.—Knapp's Gram. Brit. p. I. t. 1.—Schreb. Besch. der Gräser, t. 5.—Linn. Sp. Pl. p. 40.—Huds. Fl. Angl. (2nd ed.) p. 11.—Sm. Fl. Brit. v. i. p. 31. Engl. Fl. v. i. p. 37.—With. (7th ed.) v. ii. p. 82.—Gray's Nat. Arr. v. ii. p. 135.—Lindl. Syn. p. 306.—Hook. Brit. Fl. p. 14.—Lightf. Fl. Scot. v. i. p. 81.—Leers' Fl. Herb. p. 6. t. 2. f. 1.—Martyn's Fl. Rustica, t. 23.—Sibth. Fl. Oxon. p. 18.—Abbot's Fl. Bedf. p. 8.—Purt. Midl. Fl. v. i. p. 58.—Relh. Fl. Cant. (3rd ed.) p. 13.—Graves' Brit. Grasses, t. 16.—Curt. Observ. on the Brit. Grasses, (5th edit.) p. 7. t. 1.—Sincl. Hort. Gram. Woburn. p. 18. f. 1. and p. 134, with a plate.—Hook. Fl. Scot. p. 11.—Grev. Fl. Edin. p. 7.—Fl. Devon. pp. 10 & 119.—Johnst. Fl. of Berw. v. i. p. 9.—Walk. Fl. of Oxf. p. 9.—Baxter's Library of Agricul. and Horticul. Knowledge, (2nd edit.) p. 294, with a figure.—Bab. Fl. Bath. p. 56.—Mack. Catal. of Pl. of Irel. p. 10.—*Gramen vernum spica brevi laxa*, Ray's Syn. p. 398.

LOCALITIES.—In meadows and pastures. Common.

Perennial.—Flowers in April and May.

Root fibrous. *Culms* (*stems*) at first growing obliquely, afterwards becoming upright, cylindrical, smooth, from 6 inches to a foot or more high, with 1 or 2 joints. *Leaves* flat, bright green, a little hairy; each with a white, membranous, sheathing *Stipula*. *Spike* or rather spike-like panicle oblong, loose; the flowerstalks in

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Fig. 1. Calyx.—Fig. 2. The two paleæ of the Corolla.—Fig. 3. The Stamens and Pistils, with the Germen inclosed in the Nectary.—Fig. 4. Germen, Styles, and Stigmas.—Fig. 5. A Seed.—Figs. 2 & 3 magnified.

* From *anthos*. Gr. *a flower*, and *xanthos*, Gr. *yellow*; from the yellowish hue of the spikes, especially in age. Dr. HOOKER.

† See *Veronica Chamædrys*, folio 50, note †.

bundles, very short, somewhat branched, upright; before and after flowering contracted closer, the lower ones more remote. *Flowers* generally closed, brownish, turning yellow with age. *Paleæ* of the Corolla the length only of the shorter glume of the Calyx. *Nectary* (see fig. 3.) of 2 small, pellucid, shining, egg-shaped scales, considered by some Botanists as an inner corolla, these closely embrace the germen, and are not easily distinguished, unless they are observed just at the time that the anthers are protruding from between them, when they are very distinct; but as soon as the anthers are excluded, they again close on the germen, and continue to form a coat to the seed which does not separate. *Filaments* 2, (by which it is distinguished from all other British Grasses, except *Bromus diandrus*,) very long. *Anthers* long, purple, and forked at each end, (see fig. 3.) *Seed* (fig. 5.) single, and inclosed within the brown, shining nectary.

Dr. BROWN has taken a very different view of the flowers of this genus from that given above; he considers the calyx as 3-flowered; the 2 paleæ of the corolla as two imperfect outer and lower flowers, each reduced to a single awned valve; and the two valves of the nectary as constituting a central perfect flower.—Mr. WILSON observes, that the germen is spurred at the base, and that there is no scale there, as in most other Grasses. See *Hook. Brit. Fl.*

This is one of our earliest Grasses, and principally occasions the delightful smell so peculiar to new-mown hay; hence its name of *odoratum*, or *sweet-scented.* If the leaves are gathered and held in the hand a few minutes, they exhale a grateful odour, similar to that of Woodruff *(Asperula odorata)*, t. 46.—BOCCONE states, that a distilled water is prepared from this grass, as the vehicle of some perfumes. If it be gathered while in flower, wrapped in a paper, and carried in the pocket, it retains the smell of new-mown hay for a long time. This fragrance depends, according to VOGEL, upon the presence of Benzoic acid.—The late Mr. JOHN SINCLAIR states, that it constitutes a portion of the herbage on pastures on almost every kind of soil, although it attains to perfection on those only that are deep and moist. It thrives best, he says, and is most productive and permanent when combined with other species of grasses, and it is therefore a true permanent pasture grass. When sown by itself, it is not a profitable grass. In BAXTER's *Library of Agricultural and Horticultural Knowledge*, we are informed that "Mr. GRANT, of Leighton, laid down a field of considerable extent with this grass, and another adjoining field with the meadow foxtail, *(Alopecurus pratensis)*, t. 45. A portion of clover seed was sown in each case; white clover *(Trifolium repens)* with the former; and red clover *(Trifolium pratense)* with the latter grass. Both fields were open at the same time to sheep. The stock gave a decided preference to the meadow foxtail."—"We saw," says Mr. SINCLAIR, "this trial conducted on a large scale, and with every impartiality, by Mr. GRANT, and the conclusions agreed with the results of our own trials—that the sweet-scented vernal is a useful ingredient in pastures on a deep moist soil, but is unfit to be cultivated by itself."

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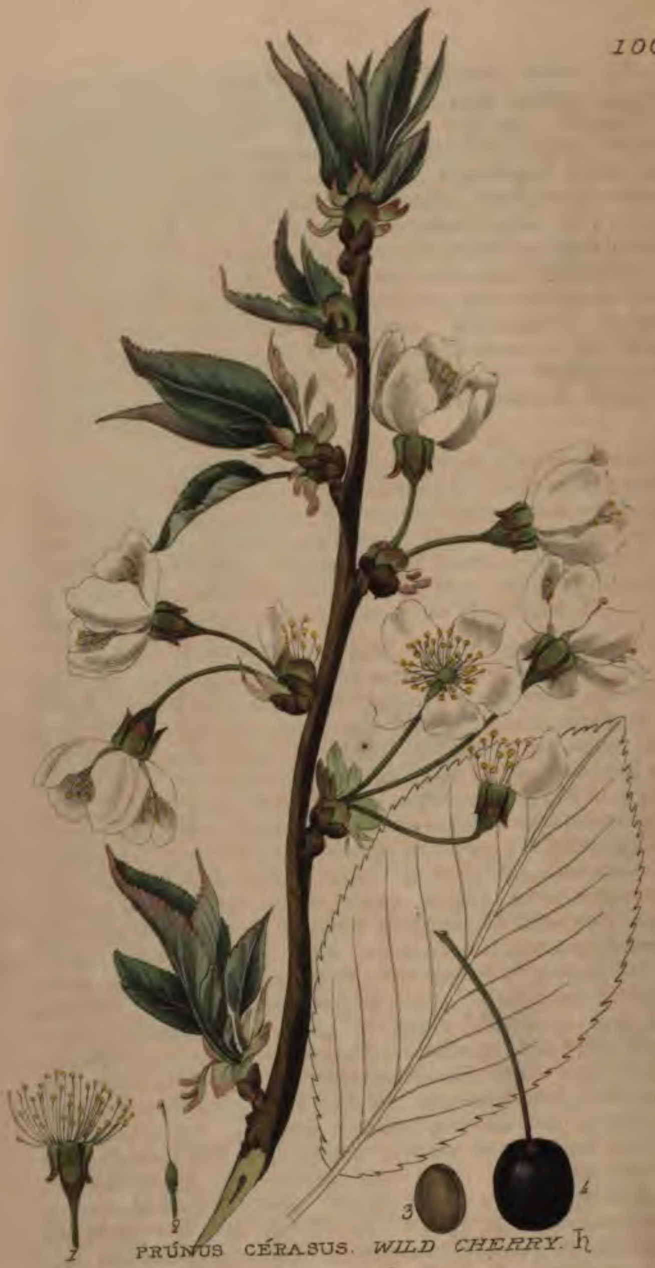

PRÚNUS CÉRASUS. *WILD CHERRY.* ♄

I.R. Del.

Pub^d by W. Baxter, Botanic Garden, Oxford, 1834.

W.E.A. Sc.

(100.)

PRU'NUS*.

Linnean Class and Order. ICOSA'NDRIA†, MONOGY'NIA.

Natural Order. AMYGDA'LEÆ, Lind. Introd. to Nat. Syst. of Bot. p. 84.—DRUPA'CEÆ, Decand. Fl. Française, v. iv. p. 479.—ROSA'CEÆ; Sect. AMYGDA'LEÆ, Juss. Gen. Pl. pp. 334 & 340.—Sm. Gram. of Bot. pp. 171 & 173.—Loud. Hort. Brit. p. 512.—ROSA'CEÆ, Sect. DRUPA'CEÆ, Lind. Syn. pp. 88 & 89.—Rich. by Macgilliv. pp. 528 & 529.

GEN. CHAR. *Calyx* (see fig. 1.) inferior, of 1 sepal, bell-shaped, with 5 blunt, concave, marginal segments, deciduous. *Corolla* of 5, roundish, concave, large, spreading petals, attached to the rim of the calyx by short claws. *Filaments* (see fig. 1.) from 20 to 30, awl-shaped, nearly as long as the corolla, from the rim of the calyx within the petals. *Anthers* short, of 2 round lobes. *Germen* (see fig. 2.) superior, roundish. *Style* thread-shaped, terminal, the length of the stamens. *Stigma* round. *Drupe* (fig. 4.) roundish or elliptical. *Nut* (fig. 3.) very hard, somewhat compressed, of 1 cell, and 2 more or less distinct valves, prominent at the margin, with an intermediate furrow; *kernel* solitary, suspended from the top.

Distinguished from other genera in the same class and order, by the inferior, 5-cleft *calyx;* the *corolla* of 5 petals; and the *nut* of the *drupe* with slightly prominent seams.

Five species British.

PRU'NUS CE'RASUS. Wild Cherry-tree.

SPEC. CHAR. Flowers in nearly sessile umbels; leaves egg-spear-shaped, somewhat downy beneath; conduplicate in the bud.

Eng. Bot. t. 706.—Linn. Sp. Pl. p. 679.—Huds. Fl. Angl. (2nd ed.) p. 213.—Sm. Fl. Brit. v. ii. p. 526. Eng. Fl. v. ii. p. 354.—With. (7th ed.) v. iii. p. 593.—Hook. Brit. Fl. p. 220.—Hunter's Evelyn's Silva, p. 188, with a plate.—Sibth. Fl. Oxon. p. 155.—Abbot's Fl. Bedf. p. 107.—Purt. Midl. Fl. v. i. p. 233.—Relh. Fl. Cantab. (3rd ed.) p. 195.—Hook. Fl. Scot. p. 150.—Grev. Fl. Edin. p. 108.—Fl. Devon. pp. 81 & 173.—Johnston's Fl. of Berw. v. i. p. 109.—Walk. Fl. of Oxf. p. 134.—Mack. Catal. of Pl. of Irel. p. 47.—*Prunus avium*, Linn. Sp. Pl. 680?—Lightf. Fl. Scot. v. i. p. 254.—Sibth. Fl. Oxon. p. 154.—Abbot's Fl. Bedf. p. 107.—*Cérasus dvium*, Lindl. Syn p. 90.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 505.—Bab. Fl. Bath. p. 14.—*Cerasus hortensis*, Gray's Nat. Arr. v. ii. p. 590.—*Cerasus sylvestris fructu rubro*, and *C. sylvestris fructu nigro*, Ray's Syn. p. 463.—*Cerasus vulgaris*, and *C. nigra*, Johnson's Gerarde, pp. 1502 & 1505.

LOCALITIES.—In woods and hedges. Not uncommon in most parts of England. It is not very plentiful about Oxford; I have observed it in Marston-lane; in Shotover Plantations; and in Bagley-Wood.—About Rugby, in Warwickshire, it is rather abundant, especially on Jarrett's Heath between that town and the village of Dunchurch; April, 1834.

Fig. 1. Calyx and Stamens.—Fig. 2. Germen, Style, and Stigma.—Fig. 3. The Stone.—Fig. 4. The Fruit or Drupe.

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* Said to be a word of Asiatic origin; in Greek, *proune*, supposed to signify the Wild Plum. Dr WITHERING.

† The 12th class in the LINNEAN System, containing those plants which have perfect flowers with 20 or more stamens in each, inserted into the calyx; which is monosepalous and concave, and the claws of the petals are fixed into its inner side. The situation of the stamens easily distinguishes this class from that of Polyandria, in which they are placed on the receptacle (see fol. 51.)

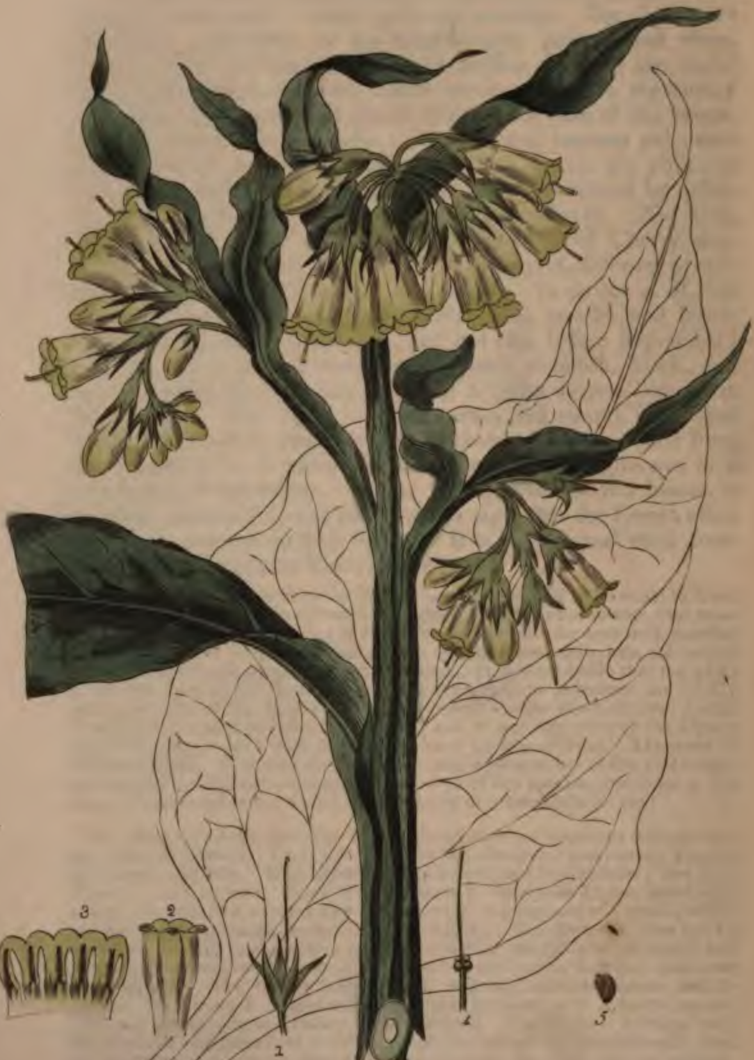
Tree.—Flowers in April and May.

A moderate sized tree, with round *branches*, and a polished ash-coloured bark, whose cuticle splits horizontally. The *leaves* are petiolated, egg-shaped, or egg-spear-shaped, pointed and veiny, with glandular serratures; the upper surface smooth; the under more or less hairy, especially about the veins. There are usually 2 unequal, reddish-coloured glands either at the base of the leaves, or at the top of the *footstalks*. *Stipulas* and *bracteas* pale, with glandular teeth or fringes, deciduous. The *flowers* are white, on long simple stalks, but few together, in umbels produced by different buds from the foliage. *Calyx* at length reflexed. *Nut* hard, very smooth. There are several varieties of Wild Cherry enumerated in the *English Flora* of Sir J. E. SMITH, differing principally in the shape and colour of the fruit. In variety α. of that work, the fruit is red, acid, and austere; in β. smaller and heart-shaped; in γ. small, round, red, and not ripe before September; in δ. (*P. avium* of SIBTHORP) rather small, roundish, black, and sweet; and in variety ε. larger, and of a better flavour, but of the same colour. The *leaves* in every variety are simply folded flat (conduplicate) while young, by which character cherries differ from the Bullace tribe, in which the leaves are rolled lengthways in a spiral manner (convolute). In the Spring, when in full bloom, it is highly ornamental; and Dr. HUNTER says, that the French often plant it for avenues to their houses. It is the original stock from which all the cultivated kinds are derived.

The Gum that exudes from the Wild Cherry-tree is said to be equal to Gum Arabic, though differing in chemical qualities. HASSELQUIST relates, that more than one hundred men, during a siege, were kept alive for near two months, without any other sustenance than a little of this Gum taken into the mouth sometimes, and suffered gradually to dissolve. It is remarkable that the barks of all the trees which furnish this bland mucilaginous substance are highly astringent; that of the *Acacia* itself, (from certain species of which Gum Arabic is obtained,) is used in India for tanning; and in our own country the Cherry and Plum trees, which also yield Gum, have astringent barks. The wood is hard and tough. It is used by the Turner, and is formed into chairs and hoops, and stained to imitate mahogany.—The leaves of this species, and those of the sloe, *(Prunus spinosa,)* have been employed as a substitute for tea.

The *Natural Order* AMYGDA'LEÆ is composed of polypetalous dicotyledonous *Trees* or *Shrubs*. Their leaves are simple, alternate, and usually glandular towards the base. Their *Stipulæ* simple, and mostly glandular; and their *Flowers* white or pink. They have a 5-toothed, deciduous *Calyx*, lined with a disk; the fifth lobe next the axis. The *Corolla* is composed of 5 petals, which are perigynous (situated on the rim of the calyx). The *Stamens*, (see fig. 1.) which are from 20 to about 30 in number, arise from the throat of the calyx, and are curved inwards in æstivation. The *Anthers* are innate, 2-celled, and burst longitudinally. The *Ovary* (see fig. 2.) is superior, solitary, simple, and 1-celled. The *Ovula* 2, suspended; the *Styles* terminal, with a furrow on one side, and terminating in a kidney-shaped *Stigma*. The *Fruit* is a drupe, with the putamen (the inner coat or shell) sometimes separating spontaneously from the sarcocarp (the intermediate substance between the outer skin or epicarp, and the inner coat or shell). The *Seeds* are mostly solitary, and suspended. The *Embryo* straight, with the radicle pointing to the hilum; and the *Cotyledons* thick; with no *Albumen*. *Prussic Acid* is present in the leaves and kernel.

This order is distinguished from *Rosáceæ* and *Pomáceæ*, by its fruit being a drupe (see fig. 4.), and by the presence of Prussic Acid; from *Leguminósæ*, by the equal petals and stamens, and by the fruit. See Lind. Introd. to Nat. Syst. of Botany.



SYMPHYTUM OFFICINÁLE. *COMMON COMFREY.* ♃

Pub.d by W. Baxter Botanic Garden Oxford 1834.

I. R. Del. *C.M. Sc.*

SY'MPHYTUM*.

Linnean Class and Order. PENTA'NDRIA†, MONOGY'NIA.

Natural Order. BORAGI'NEÆ‡, Juss. Gen. Pl. p. 128.—Sm. Gram. of Bot. p. 102.—Lindl. Syn. p. 163; Introd. to Nat. Syst. of Bot. p. 241.—Rich. by Macgilliv. p. 440.—Loud. Hort. Brit. p. 527.—ASPERIFO'LIÆ, *Linn.*—Sm. Eng. Fl. v. i. p. 247.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, in 5 deep, pointed, upright segments, permanent. *Corolla* (figs. 2 & 3.) of 1 petal, cylindrical, bell-shaped; tube short; limb ventricose (distended in the middle), with 5 short, spreading, marginal segments; mouth closed with 5 spear-shaped, fringed, converging valves§, shorter than the limb. *Filaments* (see fig. 3.) 5, short, in the throat of the corolla, alternate with the valves. *Anthers* arrow-shaped, pointed, concealed by the valves. *Germens* (fig. 4.) 4, abrupt. *Style* (fig. 4.) slightly club-shaped, as long as the corolla. *Stigma* simple. *Seeds* (fig. 5.) 4, egg-shaped, tumid, converging, attached to the base of the enlarged calyx.

Distinguished from other genera with a monopetalous inferior corolla, and 4 naked seeds, in the same class and order, by the limb of the *corolla* being bell-shaped, and its orifice closed by 5 awl-shaped converging *scales* or *valves.*

Two species British.

SY'MPHYTUM OFFICINA'LE. Common Comfrey.

SPEC. CHAR. Leaves between egg-shaped and spear-shaped, very decurrent, and winging the upper part of the stem; finely hairy.

Engl. Bot. t. 817.—Curt. Fl. Lond. t. 230.—Linn. Sp. Pl. p. 195.—Huds. Fl. Angl. (2nd ed.) p. 81.—Sm. Fl. Brit. v. i. p. 218. Engl. Fl. v. i. p. 263.—With. (7th ed.) v. ii. p. 284.—Gray's Nat. Arr. v. ii. p. 356.—Lindl. Syn. p. 164.—Hook. Brit. Fl. p. 81.—Lightf. Fl. Scot. v. i. p. 134.—Woodv. Med. Bot. Supp. t. 215.—Sibth. Fl. Oxon. p. 70.—Abbot's Fl. Bedf. p. 42.—Purt. Midl. Fl. v. i. p. 108.—Relh. Fl. Cant. (3rd ed.) p. 81.—Hook. Fl. Scot. p. 69.—Grev. Fl. Edin. p. 45.—Rev. G. E. Smith's Pl. of South Kent, p. 13.—Fl. Devon. pp. 34 & 151.—Johnston's Fl. of Berwick, v. ii. p. 275.—Walk. Fl. of Oxf. p. 50.—Perry's Pl. Varvic. Selectæ, p. 16.—Mack. Catal. of Pl. of Irel. p. 21.—Bab. Fl. Bath. p. 32.—*Symphytum magnum*, Ray's Syn. p. 230.—*Consolida major*, Johnson's Gerarde, p. 806.

LOCALITIES.—In watery meadows, and about the banks of rivers and ditches. Not uncommon.

Fig. 1. Calyx, Style, and Stigma.—Fig. 2. Corolla.—Fig. 3. The same cut open to show the Stamens and Valves.—Fig. 4. Germens, Style, and Stigma.—Fig. 5. A Seed.

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* From *Sumphuo*, Gr. *to grow together*, from its supposed healing qualities, in uniting wounds. Rev. R. WALKER.

† See *Anchusa sempervirens*, f. 48. ‡ See *Pulmonaria officinalis*, f. 102, a.

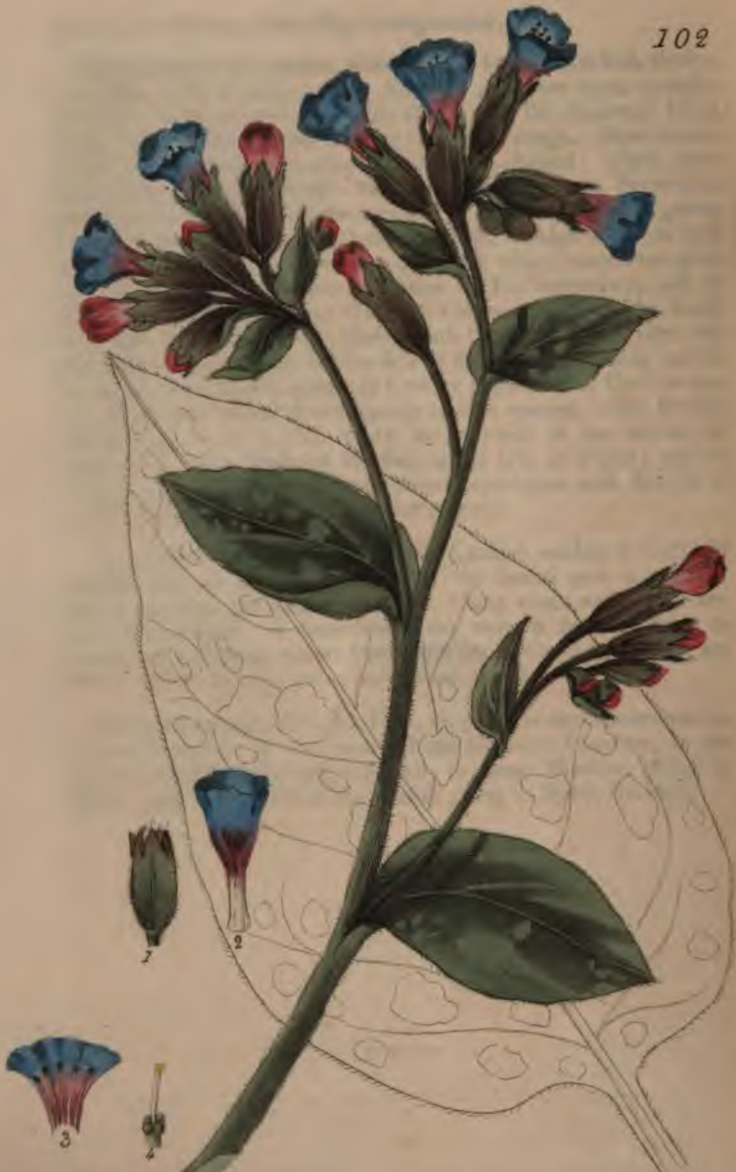
§ These valves are hollow within, with an aperture at the base on the outside of the corolla.

Perennial.—Flowers from May to September.

Root black on the outside, white within, large, branched, fleshy, abounding with a slimy juice. *Stems* 2 or 3 feet high, upright, branched, hairy, winged, especially above, with the decurrent bases of the leaves. *Root-leaves* on long footstalks, rough. *Stem-leaves*, lower ones between egg-shaped and spear-shaped; upper ones spear-shaped, sessile, somewhat stem-clasping, very decurrent, and more or less waved at the margin. *Clusters* growing in pairs, stalked, hairy, forked at the base, revolute. *Calyx* more or less spreading. *Corolla* usually of a yellowish white, sometimes purple; this last variety is the *S. Patens* of Dr. SIBTHORP, and is occasionally met with about Oxford; I have seen it on the bank of a ditch by the side of the towing path between High Bridge and Hayfield's Hut, and also by the side of the footpath leading across the fields from St. Clement's to Cowley Marsh. Mr. CURTIS has figured a very beautiful red variety of this species in his *British Entomology*, v. iv. t. 155, which he gathered in the middle of September, upon Sandown Marshes in the Isle of Wight; and at the same time Mr. CURTIS found several specimens with flowers of the richest purple, and others entirely green.

The root abounds in a pure mucilage, which renders it useful in coughs, and all internal irritations; the leaves give a grateful flavour to cakes and panada, and the young stems and leaves are good when boiled. A decoction of the roots is used by dyers to extract the colouring matter from Gum Lac.—Cows and sheep are said to eat it; horses, goats, and swine, to refuse it.

Urédo Sy'mphyti, D C. Fl. Fr. v. vi. p. 87, is not uncommon on the under surface of the leaves of the Common Comfrey, in the neighbourhood of Oxford, especially in Long Meadow, going to Iffley; and on the side of the ditches going to South Hinksey.



PULMONÁRIA OFFICINÁLIS. *COMMON LUNGWORT.* ♃

I.R. Del. *Pub.^{d} by W. Baxter, Botanic Garden, Oxford, 1834.* W.E.A. Sc.

PULMONA'RIA*.

Linnean Class and Order. Penta'ndria†, Monogy'nia.

Natural Order. Boragi'neæ, Juss. Gen. Pl. p. 128.—Sm. Gr. of Bot. p. 102.—Lindl. Syn. p. 163; Introd. to Nat. Syst. p. 241.—Rich. by Macgilliv. p. 440.—Loud. Hort. Brit. p. 527.—Asperifo'liæ, *Linn.*—Sm. Engl. Fl. v. i. p. 247.

Gen. Char. *Calyx* (fig. 1.) inferior, of 1 sepal, tubular, prismatic, with 5 angles, and 5 equal segments, permanent. *Corolla* (fig. 2.) of 1 petal, funnel-shaped; tube cylindrical, as long as the calyx; limb in 5 shallow, rounded, moderately spreading segments; mouth naked and open. *Filaments* (fig. 3.) 5, very short, in the mouth of the tube. *Anthers* oval, upright, converging. *Germens* (fig. 4.) 4, roundish, downy. *Style* (fig. 4.) thread-shaped, shorter than the calyx. *Stigma* small, bluntish, notched. *Seeds* 4, almost globular, even and polished, hairy, attached to the base of the enlarged, bell-shaped *calyx.*

The funnel-shaped *corolla,* naked in the throat; and the 5-cleft, prismatic *calyx;* will distinguish this from other genera, with a monopetalous, inferior corolla, and 4 naked seeds, in the same class and order.

Two species British.

PULMONA'RIA OFFICINA'LIS. Common Lungwort. Jerusalem Cows-lips.

Spec. Char. Root-leaves between egg-shaped and heart-shaped, on footstalks; upper stem-leaves sessile, egg-shaped.

Engl. Bot. t. 118, *(excluding the root-leaves, which belong to P. angustifolia).*—Linn. Sp. Pl. p. 194.—Huds. Fl. Ang. (2nd ed.) p. 81.—Sm. Fl. Brit. v. i. p. 217. Engl. Fl. v. i. p. 261.—With. (7th ed.) v. ii. p. 282.—Gray's Nat. Arr. v. ii. p. 353.—Lindl. Syn. p. 164.—Hook. Brit. Fl. p. 80.—Woodv. Med. Bot. Suppl. t. 212.—Abbot's Fl. Bedf. p. 42.—Hook. Fl. Scot. p. 69.—Grev. Fl. Edin. p. 45.—*Pulmonaria maculosa*, Johnson's Gerarde, p. 808, (fig. 2, of Gerarde, appears to be the present species, and not fig. 1).

Localities.—In woods and thickets. Rare.—*Bedfordshire;* Between Thurleigh and Milton-Ernys; Rev. R. Relhan.—*Cumberland;* Near Keswick: Mr. Hutton.—*Gloucestershire;* Bitton; Wick Rocks: Rev. H. T. Ellicombe.—*Hampshire;* Common in Exbury Wood: Mr. Rudge.—*Northumberland;* In a wood at Howick, plentifully: Rev. J. Dodd.—*Surrey;* Between Croydon and Godstone: Dr. Miln.—*Wilts;* In a shady lane about a mile from Bromham: Mr. Norris.—*Yorkshire;* Cliff Wood, six miles west of Darlington Durham: Mr. E. Robson.—WALES. *Glamorganshire;* Woods between Neath and Pyle: Dr. Turton.—SCOTLAND. In Arniston Woods, abundant; Banks of the N. Esk, near Kevockmill, sparingly: Mr. Maughan. Banks of Clyde, about Dalbeth and Eastahill, probably an outcast of the garden: Mr. Hopkirk.

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. Corolla cut open to show the five Stamens.—Fig. 4. Germens, Style, and Stigma.

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* From *Pulmo,* the *lungs,* from the use formerly made of this and other Boragineæ in pulmonary affections. In the present instance, the spotted leaves, resembling the lungs, were the principal recommendation. Dr. Hooker.

† See *Anchusa sempervirens,* folio 48.

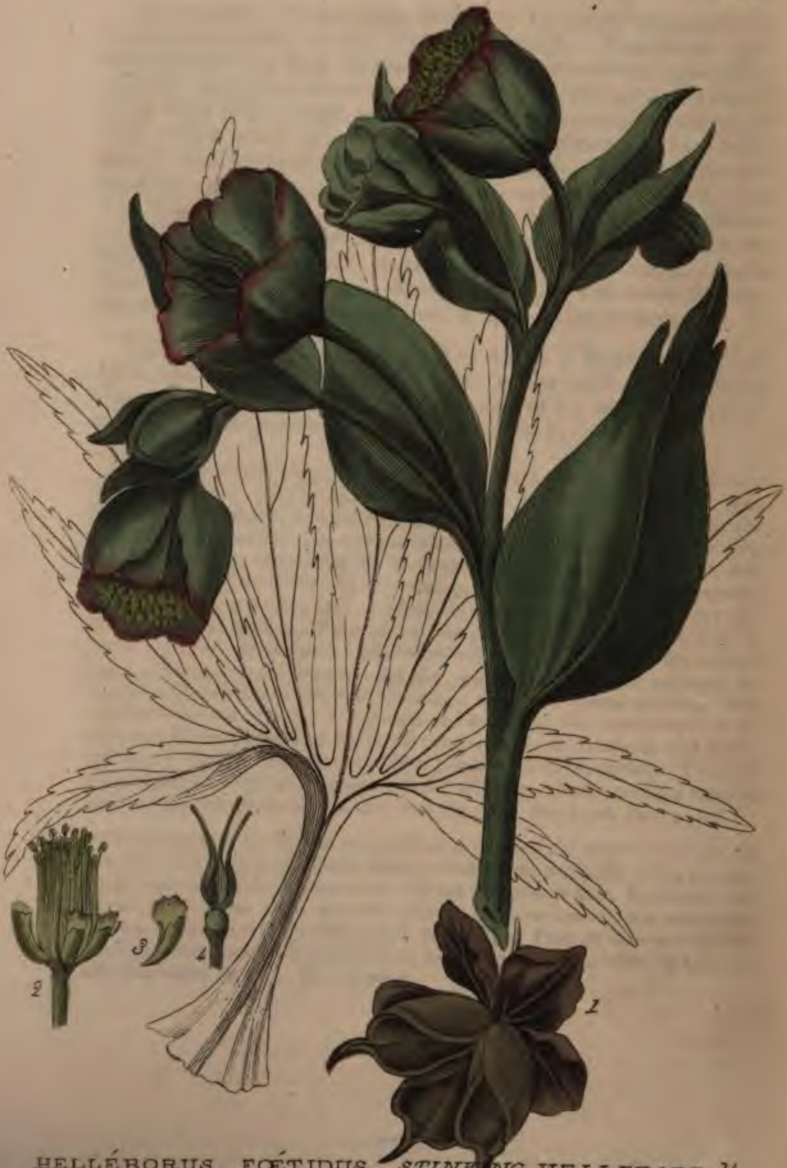
Perennial.—Flowers in May.

Root fibrous. *Stems* many, from 9 to 12 inches high, upright, somewhat angular, simple, leafy, very rough. *Root-leaves* egg-heart-shaped, on long footstalks. Lower *stem-leaves* egg-spear-shaped; upper *ones* heart-spear-shaped, half embracing the stem; all of them entire, rough, harsh, light green, and usually variegated with whitish-green spots on the upper side, whence they have been thought to resemble the human lungs, and were therefore supposed good for coughs. *Clusters* 2, terminal, corymbose, upright, with 1 or 2 *bracteas* at the lower part. *Calyx* hairy. *Corolla* reddish or flesh-coloured in the bud, changing, as soon as expanded, to violet blue; tube whitish, a little longer than the calyx. *Seeds* brown, or blackish, downy. There is a variety with white flowers, which, as well as the common one, is frequent in gardens.

This plant, when burnt, is said to afford a larger quantity of ashes than any other vegetable; often one-seventh of its weight. Sheep and goats eat it; cows are not fond of it; horses and swine refuse it. *Chrysomela nemorum* feeds upon it.

The *Natural Order* BORAGI'NEÆ consists of *herbaceous plants* or *shrubs;* with round *stems,* and alternate *leaves,* which are covered with asperities, consisting of hairs proceeding from an indurated enlarged base. Their *flowers* are produced in 1-sided spikes or racemes (clusters), or panicles, sometimes solitary and axillary. The *calyx* (fig. 1.) is monosepalous, regular, permanent, and 4- or 5-lobed. The *corolla* (fig. 2.) inferior, monopetalous, generally regular, 5-cleft, sometimes 4-cleft, with an imbricate æstivation; and in a certain number of genera presents, near the throat, five projecting appendages (valves or scales, see t. 101, fig. 3.), which are hollow within, and open externally at their base. The *stamens* are inserted upon the corolla (see fig. 3), and are equal in number to its lobes, and alternate with them, seldom in greater number. The *ovarium (germen)* (fig. 4.) is 4-parted, and 4-seeded; the *ovula (seed)* is attached to the lowest point of the cavity; the *style* (fig. 4.) is simple, and terminated by a simple or bifid *stigma.* *Nuts* (*seeds* of Linn.) 4, distinct. The *seed* is separable from the pericarpium, without *albumen.* *Embryo* with a superior *radicle,* and flat *cotyledons* parallel with the axis. See *Lind. Syn.* p. 163.

The plants of this order are nearly allied to those of the order LABIA'TÆ (see folio 94, a.) but "are essentially distinguished by the regularity of the corolla, the presence of 5 fertile stamens, the absence of resinous dots, the round (not square) figure of the stem, and the scabrous alternate leaves. On account of this last character, they are often called *Asperifoliæ.* From all other monopetalous orders they are known by the 4 deep lobes of the ovarium, called by Linnean botanists naked seeds." Dr. LINDLEY.



HELLÉBORUS FŒTIDUS. *STINKING HELLEBORE.* ♃

I.B. Del. *Pub^{d} by W. Baxter. Botanic Garden. Oxford.* W.E.A. Sc.

HELLE'BORUS[*].

Linnean Class and Order. POLYA'NDRIA[†], POLYGY'NIA.

Natural Order. RANUNCULA'CEÆ, Juss. Gen. Pl. p. 231.—Sm. Gram. of Bot. p. 136.—Lindl. Syn. p. 7.; Introd. to Nat. Syst. of Bot. p. 6.—Rich. by Macgilliv. p. 465.—Loud. Hort. Brit. p. 495.

GEN. CHAR. *Calyx* (*corolla* of Linn.) inferior, permanent (see fig. 1.), of 5 roundish, blunt, large, concave sepals, which are usually green. *Corolla* of from 8 to 10 petals (*nectaries* of Linn.), (figs. 2 & 3.) small, 2-lipped, tubular, narrow, and nectariferous at the base; deciduous. *Filaments* (see fig. 2.) very numerous, awl-shaped. *Anthers* terminal, upright, roundish, of 2 cells, bursting at the edges. *Germens* (fig. 4.) superior, from 3 to 10, egg-shaped, compressed, upright. *Styles* (see fig. 4.) awl-shaped. *Stigmas* terminal, roundish. *Follicles* (see fig. 1.) egg-shaped, compressed, coriaceous, keeled, beaked with the styles, opening at the rounded inner margin. *Seeds* several, oval, at the edges of the follicle, attached, in 2 rows, to a strap-shaped, double notched, deciduous *receptacle* (*placenta*).

Distinguished from other genera, in the same class and order, by the *calyx* of 5 permanent, regular sepals; the small, tubular, 2-lipped, nectariferous *petals;* and the nearly upright, many-seeded *follicles.*

Two species British.

HELLE'BORUS FŒ'TIDUS. Stinking Hellebore. Bear's-foot. Setterwort.

SPEC. CHAR. Stem many-flowered, leafy; leaves pedate. Calyx converging.

Eng. Bot. t. 613.—Linn. Sp. Pl. p. 784.—Huds. Fl. Angl. (2nd ed.) p. 245.—Woodv. Med. Bot. v. i. p. 53. t. 19.—Sm. Fl. Brit. v. ii. p. 598. Eng. Fl. v. iii. p. 58.—With. (7th ed.) v. iii. p. 686.—Gray's Nat. Arr. v. ii. p. 713.—Lind. Syn. p. 13.—Hook. Brit. Fl. p. 268.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 46.—Sibth. Fl. Oxon. p. 177.—Abbot's Fl. Bedf. p. 124.—Purt. Midl. Fl. v. i. p. 264, and v. iii. p. 363.—Relh. Fl. Cant. (3d ed.) p. 226.—Curt. Brit. Entomol. v. viii. t. 363!—Hook. Fl. Scot. p. 176.—Grev. Fl. Edin. p. 127.—Perry's Pl. Varvic. Selectæ, p. 47.—Walk. Fl. of Oxf. p. 159.—Bab. Fl. Bath. p. 2.—*Helleboraster maximus*, Ray's Syn. p. 271.—Johnson's Gerarde, p. 976.

LOCALITIES.—In pastures, thickets, and waste ground, on a chalky or gravelly soil. Not common.—*Oxfordshire;* Cornbury Stone-quarries: Dr. SIBTHORP, and J. COLES, Esq. King's-wood Lane, and Lower Heyford: Mr. G. WOODWARD.—*Bedfordshire;* Thickets near Bromham, Stevington, and Stagsden: Rev. C. ABBOT.—*Bucks;* Chalk-hill, near Hedsor Wharf: Mr. GOTOBED.—*Cambridgeshire;* Pastures and hedges at Cherry Hinton, Fulbourn, and Triplow: Rev. R. RELHAN.—*Cumberland;* Near Keswick: Mr. HUTTON.—*Derbyshire;* Cromford Moor: Mr. COKE. Dethick: Mr. HALLOWS. Matlock: Mrs. ACLAND.—*Devon;* Quarry near Bampton: Miss BLISS.—*Durham;* Banks of the Tees below Winston Bridge: Rev. J. HARRIMAN. Woods in Weardale: Mr. WINCH.—*Essex;* In the hedge opposite High Laver: Mr. T. F. FORSTER. Opposite a farm house at Muncombe, near Woodford: Mr. R. WARNER.—*Gloucestershire;* Woods in Tortworth Park: Mr. BAKER. Side of Jack's Green, Shepscombe, Painswick: Mr. O. ROBERTS.—*Hampshire;* All over the

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Fig. 1. The Capsules or Follicles, after they have discharged their seeds, with the permanent Calyx.—Fig. 2. Petals and Stamens.—Fig. 3. A separate Petal.—Fig. 4. Germens, Styles, and Stigmas.

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[*] From *helein*, Gr. *to cause death;* and *bora*, Gr. *food*, from the poisonous nature of the plant.

[†] See *Anemone nemorósa*, folio 43, note †.

Highwood and Coney-croft-hanger, Selborne: Rev. G. White.—Near the 39th milestone in the road to Basingstoke: Mr. E. Forster, jun.—*Kent;* Between Northfleet and Gravesend: Dr. Martyn. Road-side up the Chalk-hill, about a mile N. W. from Charing: Mr. E. Jacob.—*Norfolk;* In a hedge at Stiffkey near Wells: Mr. E. Forster, jun. On the Castle Hill at Castle Acre: Sir J. E. Smith.—*Northamptonshire;* Rockingham Forest, common: Mr. Pitt.—*Northumberland;* Woods in Allondale: Mr. Winch.—*Somersetshire;* Woods between Gounsbery and Blackwell, plentifully: Mr. Hudson. On the inner side of the wall which joins the garden of the farm-house on Claverton Down, near Bath: Dr. Heneage Gibbs, in Fl. Bath.—*Suffolk;* In several places of the parish of Brundish: Mr. J. Sherard, in Ray's Syn. Bath Hills by Bungay: Mr Woodward. Laxfield, Newton, and Cranford: Mr. Davy.—*Sussex;* Upon the Downs towards Chichester, along the road: Dr. Dillenius, in Ray's Syn. Between Pyecombe and Newtimber; and in Arundel Park: Mr. W. Borrer.—*Warwickshire;* Near Studley Castle, Dunnington, and Arrow: Mr. T. Purton. Hagley: Mr. Hickman.—*Wilts;* Woods at Clarendon near Salisbury: Dr. Martyn. Near Great Bedwyn: W. Bartlett, Esq.—*Worcestershire;* Southstone's Rock: Mrs. Gardner.—*Yorkshire;* Lanes at Campsall near Doncaster: Mr. Teesdale.—WALES. *Anglesea;* Near Tyfry: Rev. H. Davies.—*Denbighshire;* In Park Pierce, and the Crest near Denbigh: Mr. Griffith.—*Glamorganshire;* Near Park Mill towards Pennard Castle by Swansea: Dr. Turton.—SCOTLAND. Banks of the Clyde at Blantyre Priory, abundantly. Old walls, Barncluish, Glasgow: Mr. Hopkirk. Between Arnstruther and Kepply: Mr. Chalmers. By the Doune, Ayr: Mr. James Wilson, in Brit. Fl.

Perennial.—Flowers in March and April.

Root small, with a great number of slender dark-coloured fibres. *Stem* from 1 to 2 feet high, perennial, towards the bottom round, strong, naked, but marked with alternate scares, the vestiges of former leaves; branched at the top, and producing great abundance of flowers. *Leaves* very dark green, on long petioles (footstalks), truly pedate (bird-footed), of 7 or 9 spear-shaped, serrated leaflets; upper ones, or rather their *footstalks*, gradually becoming pale, spear-shaped, entire *bracteas*. *Flowers* numerous, panicled, drooping, almost globular. *Calyx* (*corolla* of Linn.) large, pale green, tinged with purple at the apex. *Petals* (*nectaries* of Linn.) from 5 to 8, small, tubular, and nectariferous at the base. *Stamens* about as long as the calyx. *Styles* 3 or 4.

The whole herb is fœtid, acrid, violently cathartic, with a nauseous taste, especially when fresh. The leaves, when dried, are sometimes given as a domestic medicine to destroy worms; but they must be used cautiously, as many instances of their fatal effects are recorded. A dose of about 15 grains of the powder of the dried leaves is given to children, which proves gently emetic and purgative. The decoction of about a drachm of the fresh leaves being considered equal to 15 grains of the dry ones; it is usually repeated on two, and sometimes three successive mornings, and seldom fails to bring away worms, if there be any in the intestinal canal. Mr. Purton informs us, in his *Midland Flora*, vol. iii. p. 364, that he never could increase the dose of powdered leaves beyond *ten* grains, without producing considerable disturbance in the intestinal canal; nor can the same quantity of the fresh-dried plant be exceeded with any degree of safety. The powdered roots mixed with meal are said to destroy mice. Country people put the root into setons made through the dewlaps of oxen, with the expectation of drawing off or relieving by the discharge, murrain or any other disease of cattle, a very ancient practice, recorded by Absyrtus and Hierocles.—See *Woodville's Med. Bot.; Withering's Bot. Arr.; Martyn's Mill. Gard. Dict., &c.*

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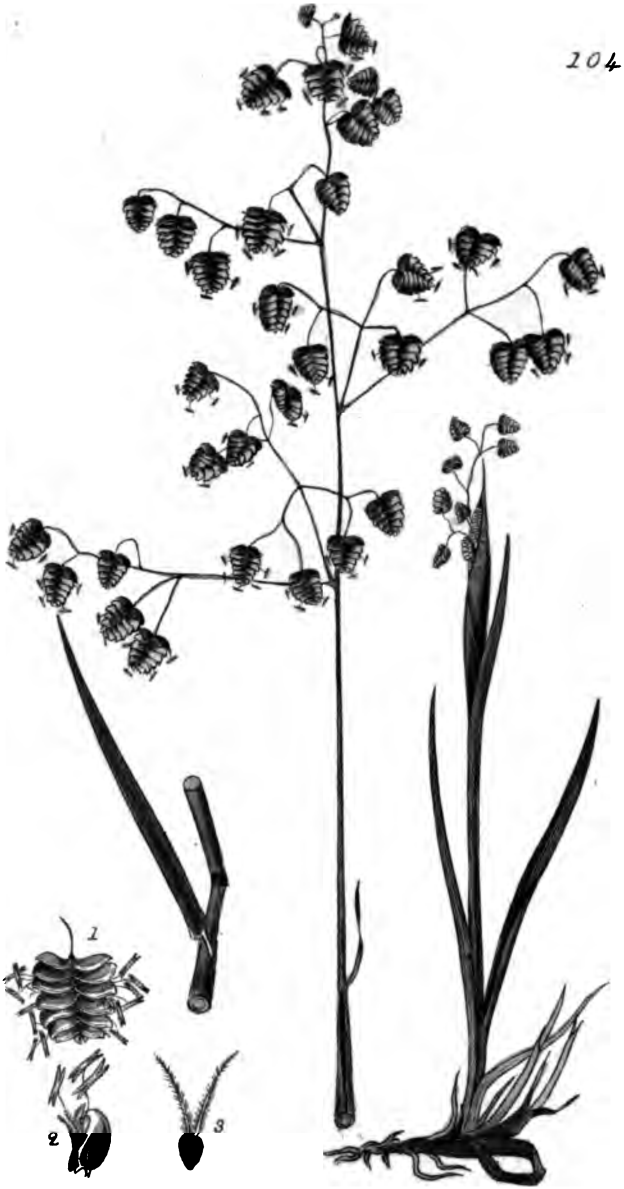

BRÍZA MÉDIA. *QUAKING-GRASS.* ♃

C. Mathews Del. & Sc. *Pub^{d}. by W. Baxter, Botanic Garden, Oxford 183[illegible].*

BRI′ZA*.

Linnean Class and Order. TRIA′NDRIA†, DIGY′NIA.

Natural Order. GRAMI′NEÆ, Juss. Gen. Pl. p. 28.—Sm. Gram. of Bot. p. 68.—Lindl. Syn. p. 293.; Introd. to Nat. Syst. of Bot. p. 292.—Loud. Hort. Brit. p. 542.—GRA′MINA, Rich. by Macgilliv. p. 393.—Sm. Engl. Fl. v. i. p. 71.

GEN. CHAR. *Panicle* loose. *Calyx* (see fig. 1.) of 2 nearly equal, awnless, inversely egg-shaped, blunt, expanded, concave, slightly keeled glumes (valves), containing a broad egg-shaped, or triangular, blunt, compressed *spikelet* (fig. 1.) of many, awnless, 2-ranked imbricated, perfect *florets*. *Corolla* (fig. 2.) of 2 unequal, awnless, obtuse paleæ (valves); the outer nearly orbicular, or inversely egg-shaped, expanded, concave, sometimes gibbous, contracted or inflexed at the edges, without rib or prominent keel; inner much smaller, flatter, oval, or inversely egg-shaped, entire or notched, inflexed at the edges; both permanent, embracing the *seed*. *Nectary* a cloven scale. *Filaments* (see fig. 2.) hair-like, longer than the glumes. *Anthers* oblong, cloven at each end, pendulous. *Germen* (fig. 3.) egg-shaped. *Styles* (fig. 3.) very short. *Stigmas* (fig. 3.) feathery, long, cylindrical. *Seed* nearly orbicular, flat, pressed closely between the valves of the corolla, and coated with the outer one, to which it is firmly united.

Distinguished from other genera, with a loose spreading *panicle*, in the same class and order, by the many-flowered, egg-shaped *spikelets;* the awnless *paleæ;* and the depressed *seed*, united to the paleæ.

Two species British.

BRI′ZA ME′DIA. Common Quaking-grass. Lady's-hair. Shaker.

SPEC. CHAR. Panicle spreading, tremulous. Spikelets broadly egg-shaped, about 7-flowered. Calyx shorter than the florets.

Engl. Bot. t. 340.—Knapp's Gram. Brit. t. 60.—Host's Gr. Aust. v. ii. p. 22. t. 29.—Linn. Sp. Pl. p. 103.—Huds. Fl. Angl. (2nd ed.) p. 38.—Sm. Fl. Brit. v. i. p. 109. Engl. Fl. v. i. p. 133.—With. (7th ed.) v. ii. p. 175.—Gray's Nat. Arr. v. ii. p. 109.—Lindl. Syn. p. 315.—Hook. Brit. Fl. p. 44.—Lightf. Fl. Scot. v. i. p. 99.—Leers' Fl. Herb. (2nd ed.) p. 26 t. 7. f. 2.—Martyn's Fl. Rust. t. 39.—Sibth. Fl. Oxon. p. 43.—Abbot's Fl. Bedf. p. 19.—Purt. Midl. Fl. v. i. p. 86.—Relh. Fl. Cant. (3rd ed.) p. 38.—Sincl. Hort. Gram. Woburn. p. 23. fig. 14. and p. 205, with a plate.—Curt. Brit. Entom. v. iv. t. 186.—Hook. Fl. Scot. p. 37.—Grev. Fl. Edin. p. 24.—Fl. Devon. pp. 18 & 124.—Johnst. Fl. Berw. v. i. p. 25.—Walk. Fl. of Oxf. p. 24.—Bab. Fl. Bath. p. 59.—Mack. Catal. of Pl. of Ireland, p. 14.—*Gramen tremulum*, Ray's Syn. p. 412.

LOCALITIES.—In meadows and pastures. Frequent.

Perennial.—Flowers from May to July.

Fig. 1. A Spikelet.—Fig. 2. A Floret, with the three Stamens.—Fig. 3. The Germen, Styles, and Stigmas.—All magnified.

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* From *brizo*, Gr. *to nod;* alluding to the pendulous or nutant position of the blossoms. WITHERING.

† See *Alopecúrus praténsis*, folio 45, note †.

Root fibrous, tufted. *Culms (stems)* from 8 or 10 inches to a foot and a half high, slender, upright, very smooth, leafy chiefly towards the bottom. *Leaves* deep green, strap-spear-shaped, short, flat, roughish. *Panicle* handsome, upright, much branched, branches very much spreading, somewhat flexuose, slender, and tinged with purple. *Spikelets* (fig. 1.) tremulous, shining, purple. *Florets* (fig. 2.) about 7, more or less green or greenish-white at the edges, the lower ones projecting a little beyond the calyx, which renders the spikelet egg-shaped. *Calyx-valves (glumes)* very concave, somewhat compressed. *Outer* valve (palea) of the *corolla* much like the calyx, but rather smaller; *inner* one minute, resembling a flat scale within the outer one.

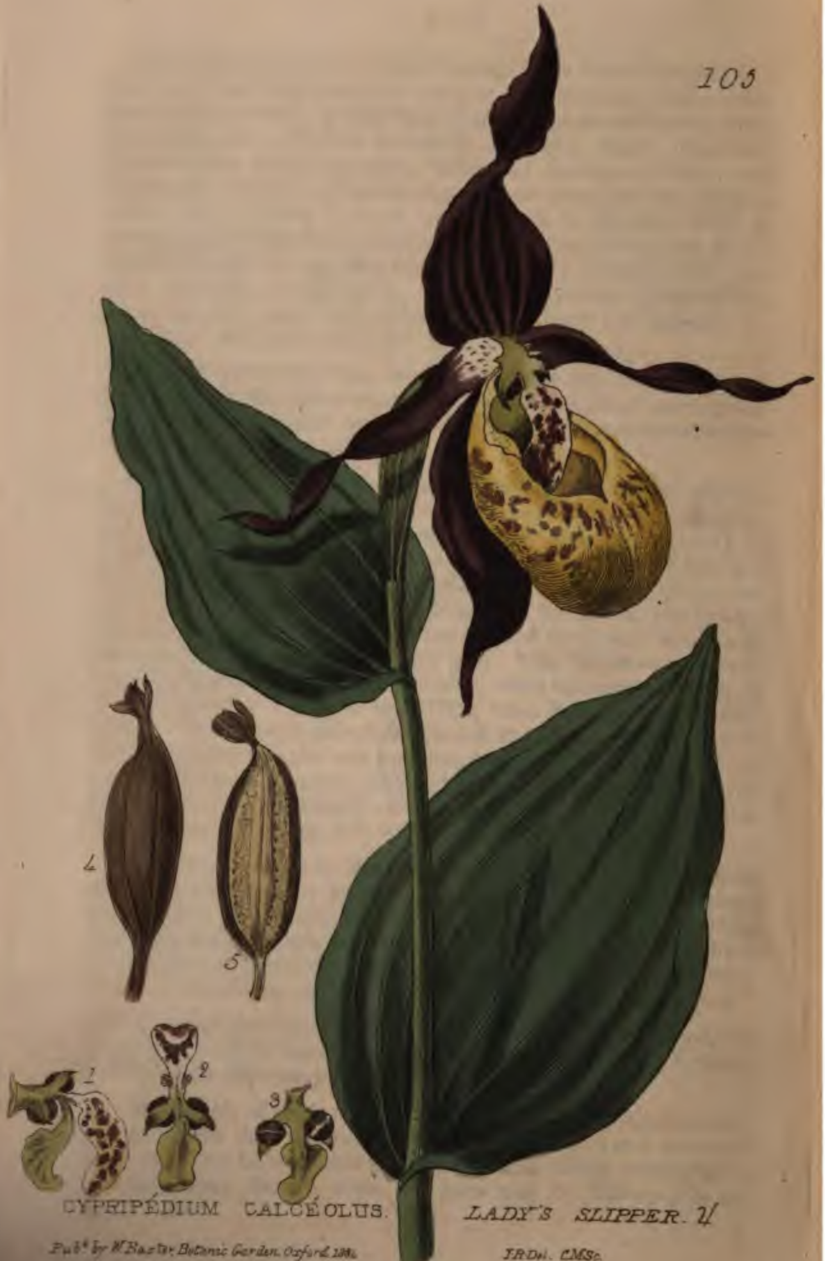
Sir J. E. SMITH mentions having had from Mr. J. E. BOWMAN a beautiful Welch specimen, whose *florets* were 12 or more, green and white, with 3 ribs towards each margin, more conspicuous than in the common kind.

Briza Média is one of our most elegant and beautiful grasses, but it is of no particular value to the farmer; it is not uncommon both in damp and dry situations in most parts of England; in Scotland it is more rare. From experiments, made by the late Mr. G. SINCLAIR, with this grass on different kinds of soil, the results of which are given in his very excellent work the *Hortus Gramineus Woburnensis*, it appears to be better fitted for a poor sandy soil than for a loomy or moist clayey one. "Its nutritive powers," says Mr. SINCLAIR, "are considerable, when compared with other Grasses affecting a similar soil. It is eaten by horses, cows, and sheep. These merits therefore demand attention, and though it is unfit, comparatively, for rich permanent pasture, yet, for poor sandy, and also for poor tenacious soils, where improvement in other respects cannot be sufficiently effected to fit them for the production of the superior Grasses, this will be found of value."

It is justly observed by Mr. KNAPP, that "we have no indigenous plant more universally known than *Briza Média;* the Quaking-grass," says this elegant writer, "is in the hands of every child, and the peculiar simplicity of its habit, and elegant manner in which the spiculæ are disposed, 'trembling at Zephyr's whisp'ring breath,' render it not unfrequently an associated ornament in the bouquet."

If a seed of this Grass be carefully dissected in a microscope, the young plant will be found with its roots and leaves perfectly formed. See BAKER'S *Microscope Made Easy*, p. 252.

"Most kinds of seeds must be prepared, in order to discover the minute plants they contain, by steeping them in warm water till their coats can be separated and their seminal leaves opened without laceration; though some few sorts may be dissected better dry." *Ibid.*



CYPRIPÉDIUM CALCÉOLUS. *LADY'S SLIPPER.* ♃

Pub^d. by W. Baxter, Botanic Garden, Oxford. [illegible]

J.R. Del. C.M.Sc.

CYPRIPE'DIUM *.

Linnean Class and Order. GYNA'NDRIA †, DIA'NDRIA.

Natural Order. ORCHI'DEÆ, Juss. Gen. Pl. p. 64.—Sm. Gram. of Bot. p. 81.; Engl. Fl. v. iv. p. 3.—Rich. by Macgilliv. p. 412.—ORCHI'DEÆ; tribe, CYPRIPEDIE'Æ, Lindl. Syn. pp. 256 & 263.; Introduct. to Nat. Syst. of Bot. pp. 262 & 265.—Loud. Hort. Brit. pp. 536 & 537.

GEN. CHAR. *Perianthium* ‡ *(Calyx* and *Corolla)* superior. *Sepals* 3, between egg-shaped and spear-shaped, taper pointed, spreading, coloured; the upper one the broadest, the two lowermost generally combined nearly their whole length. *Petals* 2, about the same length as the sepals, or longer, spreading, strap-spear-shaped, pointed, wavy. *Lip* (*Nectary* of Linn.) without a spur; inversely egg-shaped, inflated, blunt, membranous, prominent, mostly shorter than the petals, with an irregular longitudinal fissure above. *Filaments* (see figs. 1, 2, and 3) 2, on the *column*, lateral, opposite, spreading, oblong, fleshy. *Anthers* (see figs. 1, 2, and 3) lateral, elliptical. *Germen* inferior, oblong, triangular, furrowed. *Style* or *Column* (see figs. 1, 2, and 3) short and stout, somewhat compressed, bearing the stamens, and terminating above them in a dilated, petal-like, horizontal lobe, or appendage, representing a barren stamen, and dividing the *anthers.* *Stigma* (see fig. 1.) beneath this appendage, and parallel to it, in like manner dilated and flattened, but smaller. *Capsule* (figs. 4 & 5) oblong, angular, furrowed. *Seeds* oblong, numerous.

Distinguished from other genera in the same class by the large, inflated *lip* or *nectary;* the 2 fertile *stamens;* and the dilated, petal-like lobe (or sterile *stamen*) at the summit of the *column,* separating the *anthers* (see figs. 1 & 2).

One species British.

CYPRIPE'DIUM CALCE'OLUS. Common Lady's Slipper.

SPEC. CHAR. Stem leafy. Terminal lobe of the column nearly egg-shaped, channelled. Lip shorter than the sepals, somewhat laterally compressed.

Engl. Bot. t. 1.—Hook. Fl. Lond. t. 42!!—Linn. Sp. Pl. p. 1346.—Huds. Fl. Angl. (2nd ed.) p. 392.—Salisb. in Tr. Lin. Soc. v. i. p. 76. t. 2. f. 1.—Sm. Fl. Br. v. iii. p. 941. Engl. Fl. v. iv. p. 51.—With. (7th ed.) v. ii. p. 48.—Lind. Syn. p. 263.—Hook. Brit. Fl. p. 380.—Curt. Brit. Entomol. v. ix. t. 416!—Winch's Essay on the Geogr. Distrib. of Plants, &c. p. 24.—*Cypripédium ferrugíneum,* Gray's Nat. Arr. v. ii. p. 213.—*Calcéolus Mariæ,* Ray's Syn. p. 385.—Johnson's Gerarde, p. 443.—Blackst. Spec. Bot. p. 10.

LOCALITIES.—In mountainous woods and thickets, in the North of England. Very rare.—*Durham;* The north branch of Castle Eden Dene: Mr. ROBSON. Castle Eden Dene; on rocks not far from the sea; (a different habitat from Mr. Robson's;) Mr. WINCH, who states, that it is not found at Warm-shades, near Keswick, as reported by HUTTON: Dr. WITHERING.—*Lancashire;* Borough

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Fig. 1. Column, with its petal-like appendage, the 2 Stamens, and the Pistil.—Fig. 2. A front view of the same.—Fig. 3. The under side of the Column, Stamens, and Pistil, the appendage or sterile Stamen being removed.—Fig. 4. Capsule.—Fig. 5. The same divided longitudinally.

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* From *Kupris,* Gr. *Venus;* and *podion,* Gr. *a shoe* or *slipper: Venus' slipper.*

† See *Ophrys apifera,* fol. 8. n. †. ‡ See *Galanthus nivalis,* fol. 33. n. ‡.

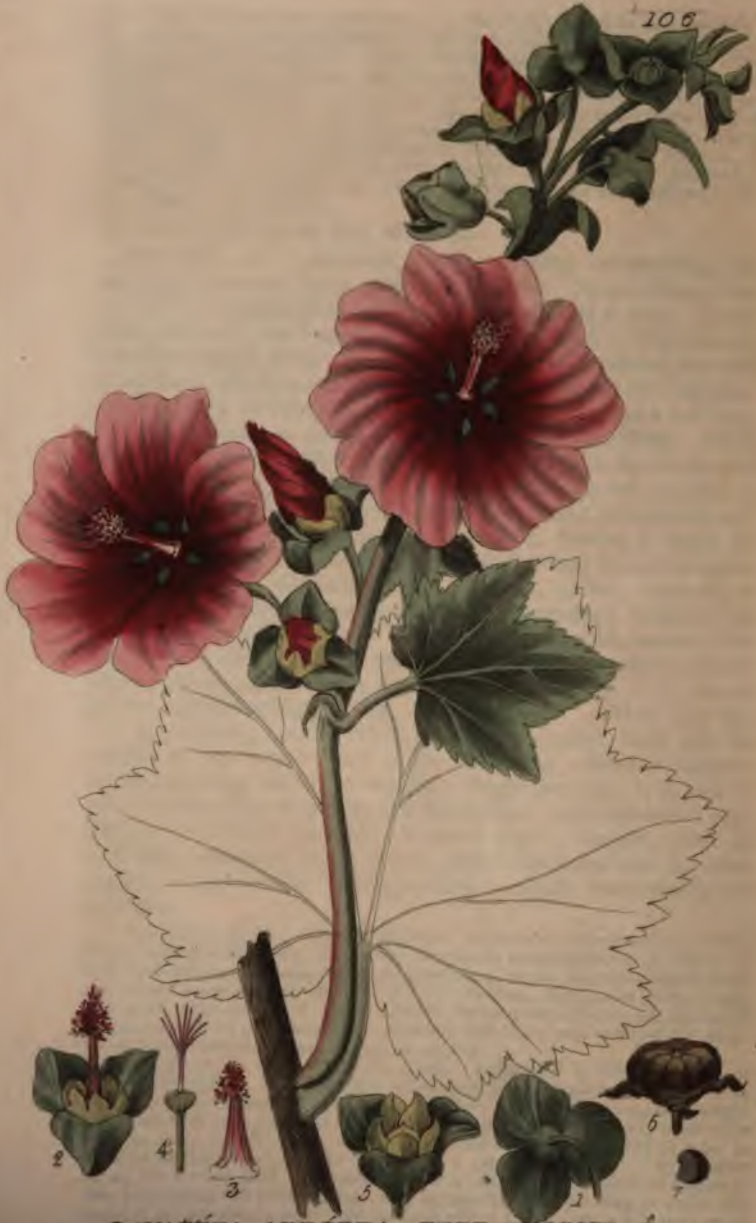
Hall Park: Dr. Martyn.—*Yorkshire;* In the Helk's Wood by Ingleborough: Ray.—Mr. D. Turner informs us, in the Botanist's Guide, v. ii. p. 712, that this plant was not to be found in Helk's Wood when he was at Ingleton in 1796; and Mr. Woodward also says, that he searched for it in vain in Helk's Wood, a gardener of Ingleby having eradicated every plant. Woods about Clapham and Ingleton: Hudson. Woods and hilly pastures in the neighbourhood of Kilsey: Mr. W. Curtis. Woods about Kilsey Crag, Wharfdale: Mr. Wood. About Arncliffe, Litten, and Kettlewell: Mr. Knowlton. Dr. Hooker, in company with the Rev. James Dalton and Mr. Joseph Woods, gathered it, in flower, near Arncliffe, in June, 1808. Between Ingleton and Chappel in the Dale, 1800: Mr. Brunton.

Perennial.—Flowers in May and June.

Root thick, of a brownish colour, creeping horizontally, and throwing out many, fleshy, long, simple fibres. *Stem* solitary, from 9 to 12 or 18 inches high, leafy, solid, striated, and downy. *Leaves* large, alternate, egg-shaped, entire, rather pointed, a little downy, somewhat waved about the margin, clasping or sheathing the stem at the base. *Flowers* terminal, usually solitary, rarely two together, nodding, large and showy. *Sepals* ribbed, an inch and a half long, of a rich dark-brown colour; the two lowermost combined. *Petals* of the same colour, rather longer and narrower than the sepals, and slightly wavy. *Lip (labellum)* large, inflated, curved, rounded at the bottom, the edges contracted, yellow, wrinkled, reticulated with veins, internally spotted, about an inch long, bearing a slight resemblance to a little shoe or slipper, and hence the trivial name, *Lady's Slipper*. *Column* (see fig. 1.) short, yellow, expanded at the apex into an oblong, petal-like lobe or appendage, (*superior lip* of Authors; *sterile stamen* of Brown), with 2 angles, more or less blunt at the base; the extremity rounded, with a short inflexed point; yellow, spotted with red. *Filaments* (see fig. 3) 2, lateral, yellow, narrow-wedge-shaped, a little curved. *Anthers* (see figs. 2 & 3) orbicular, hemispherical, marginate, 2-celled, fixed near the middle to the inferior part of the filaments. *Germen* inferior, curved, tapering below, pubescent. *Style* (see figs. 1, 2, and 3) affixed to the base of the lobes of the column, large, somewhat egg-shaped, on a short footstalk. *Capsule* (fig. 4.) upright, about an inch long, somewhat prism-shaped, with 3 flat sides, and 3-ribbed angles; within having 3 longitudinal, parietal, seminiferous receptacles.

"Our British Flora," says Dr. Hooker, in his very beautiful and splendid *Flora Londinensis*, "can boast very few plants indeed superior in beauty of form and colour, or in singularity of appearance, to the *Cypripédium Calcéolus*, which consequently, like the *O'rchis hircína*, *Cy'clamen europæ'um*, and many other species of showy exterior, but rare occurrence, are objects of constant search by gardeners and cultivators, and likely soon to add to the number of those which *have been* natives of our isle."

According to Mr. Graves, in *Fl. Lond.* "to succeed in the cultivation of this beautiful plant, it is necessary in transplanting to remove the root with as large a portion of earth as can be made to adhere to it. It may then be plunged in a mixture of loam and peat earth, in a situation where it may only receive the morning sun; and in Winter it should be protected with a quantity of moss or dead leaves thickly strown over it; or, if in a pot, may be sheltered by a frame during the severest frost."—I have heard of a peasant in the North of England, who propagated this plant for sale, very successfully, by planting it under the shade of his gooseberry trees; and the finest plants I have seen, are in the garden of the Rev. Dr. Bridges, President of Corpus Christi College, Oxford, where they have flourished and increased, for several years, under some shrubs which screen them from the sun till the afternoon.



LAVATÉRA ARBÓREA. *TREE MALLOW.* ♂

I. Russell, Del. Pub.d by W. Baxter Botanic Garden. Oxford. 1834. W.E.A. Sc.

LAVATE'RA[*]

Linnean Class and Order. MONADE'LPHIA[†], POLYA'NDRIA.

Natural Order. MALVA'CEÆ, Juss. Gen. Pl. p. 271.—Sm. Gr. of Bot. p. 148.—Lindl. Syn. p. 40; Introd. to Nat. Syst. of Bot. p. 33.—Rich. by Macgilliv. p. 476.—Loud. Hort. Brit. p. 502.

GEN. CHAR. *Calyx* (fig. 2.) inferior, double, permanent; *outer* (fig. 1.) largest, of 1 sepal, in 3 broad, deep, spreading segments; *inner* (see figs. 2 & 5.) of 1 sepal, divided half way down into 5 more upright and pointed lobes. *Corolla* of 5 inversely heart-shaped, blunt, flat, spreading petals, attached by their contracted claws to the tube of the stamens. *Filaments* (see figs. 2 & 3.) numerous, hair-like, united below into a cylindrical tube. *Anthers* kidney-shaped. *Germen* (fig. 4.) round, depressed. *Style* (fig. 4.) cylindrical, with a conical permanent base. *Stigmas* (see fig. 4.) from 7 to 14, bristle-shaped, as long as the style. *Capsules* (fig. 6.) as many as the stigmas, compressed, either tumid, or concave and wrinkled, at the back, ranged in a circle round the columnar receptacle, which in some species is greatly dilated; each of 2 valves and 1 cell, finally deciduous. *Seeds* (fig. 7.) solitary, kidney-shaped.

The *outer calyx* of 3 lobes; and the whorled, single-seeded *capsules;* will distinguish this from other genera in the same class and order.

One species British.

LAVATE'RA ARBO'REA. Sea Tree-mallow.

SPEC. CHAR. Stem woody. Leaves with about 7 angles, downy, plaited. Peduncles axillary, clustered, single-flowered.

Engl. Bot. t. 1841.—Linn. Sp. Pl. p. 972.—Huds. Fl. Angl. (2nd ed.) p. 306. —Sm. Fl. Brit. v. ii. p. 742. Engl. Fl. v. iii. p. 248.—With. (7th ed.) v. iii. p. 810.—Gray's Nat. Arr. v. ii. p. 639.—Lindl. Syn. p. 41.—Hook. Brit. Fl. p. 314.—Lightf. Fl. Scot. v. i. p. 374.—Davies' Welsh Botanology, p. 67.—Hook. Fl. Scot. p. 209.—Grev. Fl. Edin. p. 153.—Fl. Devon. pp. 117 & 179.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 469.—Mack. Catal of Pl. of Irel. p. 64.—*Malva arborea marina nostras*, Ray's Syn. p. 252.

LOCALITIES.—Rocks, &c. near the sea. Rare.—*Cornwall;* Godrevy Island, near Portreath; Mullion-gull Rock in St. Ives' Bay, &c.: BORLASE.—*Devon;* At Teignmouth: Dr. WITHERING. On the rock at the entrance of Torbay, plentifully: Mr. WESTON. Plymouth: Fl. Devon.—*Dorsetshire;* Recorded by RAY as a native of Portland and Chesil Bank, where it is still found: Dr. PULTENEY.—*Hampshire;* At Hurst Castle, over against the Isle of Wight: RAY.—*Somersetshire;* Steep Holmes Island, Severn Sea: Mr. W. CHRISTY.—WALES. *Anglesea;* On islets S. W. and West coast of Anglesea; near Llanddwyn; and on the South Stack, near Holyhead: Rev. H. DAVIES. On the island of Caldey near Tenby: RAY. On the Elyange Stack, and other in-

Fig. 1. Outer Calyx or Involucrum.—Fig. 2. Outer and Inner Calyx with Stamens and Pistils.—Fig. 3. Cylindrical Tube formed by the union of the numerous filaments.—Fig. 4. Germen, Style, and Stigmas.—Fig. 5. Outer and inner Calyx, and Germen.—Fig. 6. A whorl of Capsules.—Fig. 7. A Seed.

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[*] So named by TOURNEFORT, in honour of LAVATER, a physician at Zurich. Dr. MARTYN.

[†] From *monos*, Gr. *one*, and *adelphos*, Gr. *a brotherhood;* the 16th class in the Linnean Artificial System, containing those plants which have perfect flowers, with their stamens united by their filaments into one tube or brotherhood.

sulated rocks about Stockpole Court: Mr. Milne. On Tenby Rocks next the sea: Sir J. Cullum.—SCOTLAND. On rocks upon the sea coast, as in Inch-Garvey and Mykric Inch, in the Firth of Forth, and in Basse Island: Sibbald.—IRELAND. On Ireland's-Eye, and on old walls near the harbour of Galway. On cliffs on the South isle of Arran, and near Dingle: Mr. J. T. Mackay.

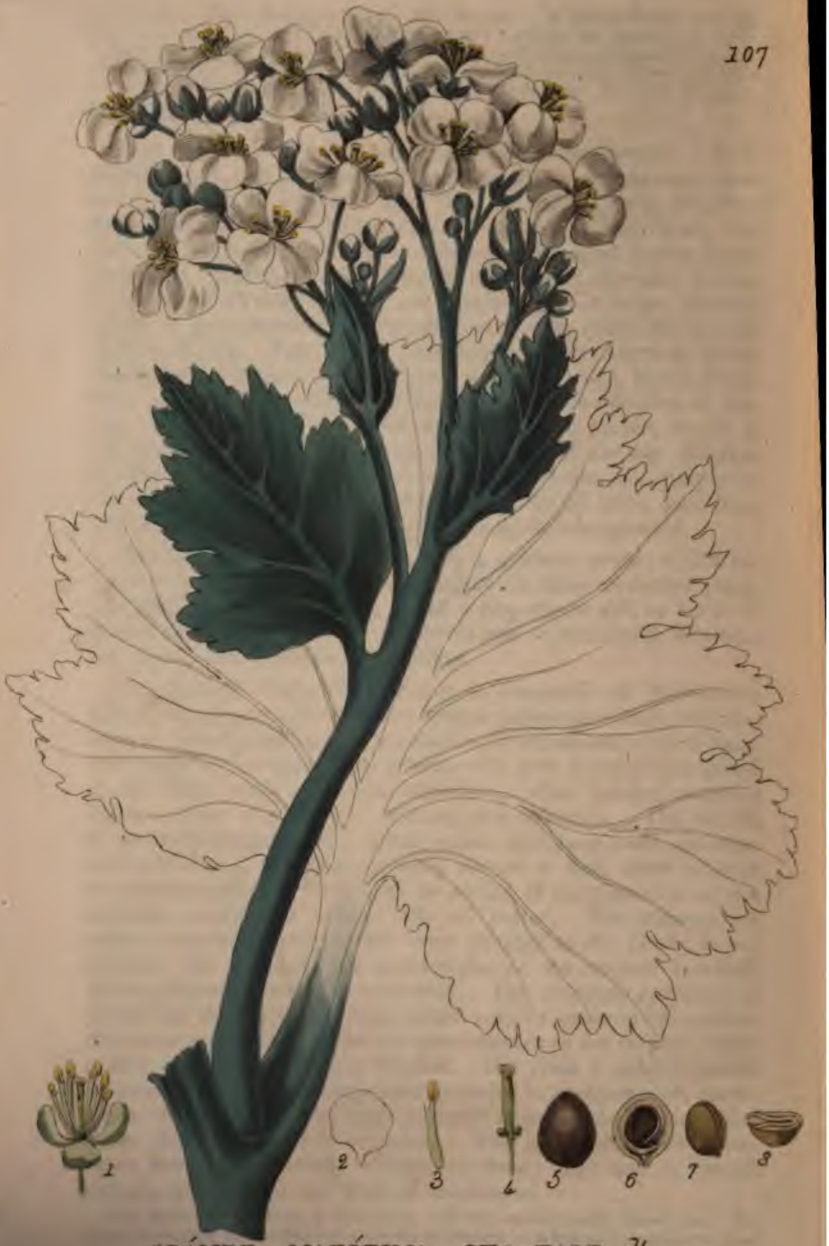
Biennial.—Flowers from July to October.

Root much branched, running deep into the ground. *Stem* scarred, thick, and of a somewhat woody substance, growing, when in a garden, to the height of from 6 to 10 feet, upright, straight; simple below, but branching towards the top into a leafy head; the *branches* besprinkled with fine, deflexed, compound, bristly hairs. *Leaves* of a greyish green, pliant, soft and downy, alternate, on long *footstalks;* their margin in 7, 5, or 3 shallow, crenate lobes. *Flowers* mostly in pairs, sometimes 3 together, on upright peduncles an inch and a half long. *Outer Calyx (involucrum* of Dr. Lindley's *Synopsis)* much larger than the *inner;* segments broad, blunt, sometimes notched. *Corolla* purplish-red, with dark blotches at the base of the petals. Cylinder of united filaments purple, woolly at the base. *Germen* smooth. *Style* usually 8-cleft at the top. *Stigmas* revolute, reddish. *Capsules* about 8, kidney-shaped, sharply 3-cornered, membranaceous, wrinkled, closed on all sides, pale-bay-coloured, not opening. *Seeds* kidney-shaped, ash-coloured.

This species is frequently met with in gardens, where, if it is allowed to scatter its seeds, it will spring up for many successive years, and often attain a large size. The young plants will, as Sir J. E. Smith observes, now and then survive one or more mild Winters; but having once blossomed it perishes.

The *Natural Order* Malva'ceæ is composed of *Herbaceous* Plants, *Shrubs*, and *Trees*, with a stellate pubescence, and alternate, more or less divided leaves, furnished with two stipulæ at their base. The *calyx* is of 5 sepals, very seldom of 3 or 4, more or less united at the base, with a valvate æstivation, often bearing external bracteæ (outer calyx, fig. 1.) forming an involucrum. The *corolla* is generally composed of 5 petals, which are hypogynous, alternate with the lobes of the calyx, spirally twisted at first, either distinct or united together at their base, by means of the filaments of the stamens, so that the corolla falls off entire. The *stamens* are usually indefinite, rarely of the same number as the petals, hypogynous; the *filaments* are monadelphous; the *anthers* 1-celled, kidney-shaped, bursting transversely. The *ovarium (germen)* is formed by the union of several carpels round a common axis, either distinct or coherent. *Styles* the same number as the carpels, either united or distinct; *stigmas* variable. The *fruit* is either capsular or baccate, its carpels being either 1-seeded or many-seeded, sometimes united in one, sometimes separate or separable; their dehiscence either loculicidal or septicidal. The *seeds*, which are sometimes hairy, are generally without *albumen;* they have a curved *embryo*, with twisted and doubled *cotyledons*.

The *Malvdceæ* abound in mucilage, and are consequently demulcent. No plant belonging to this family is known to possess unwholesome qualities. See *Lindl. Syn.* and *Rich. by Macgilliv.* The British Genera in this order are *Malva*, t. 25.; *Althæa;* and *Lavatera*, t. 106.



CRÁMBE MARÍTIMA. *SEA KALE.* ♃

R.Del. Pub.d by W. Baxter, Botanic Garden, Oxford, 1836. W.B.A.Sc.

CRA'MBE*.

Linnean Class and Order. TETRADYNA'MIA †, SILICULO'SA ‡.

Natural Order. CRUCI'FERÆ §, Juss. Gen. Pl. p. 237.—Sm. Gram. of Bot. p. 138.—Rich. by Macgilliv. p. 498.—CRUCI'FERÆ, Suborder ORTHOPLO'CEÆ ||, Tribe RAPHA'NEÆ, (or ORTHOPLO'CEÆ LOMENTA'CEÆ), Lind. Syn. pp. 20 & 34.; Introd. to Nat. Syst. pp. 14 & 18.—Loud. Hort. Brit. pp. 498 & 499.; Mag. of Nat. Hist: v. i. pp. 143 & 240.

GEN. CHAR. *Calyx* (see fig. 1.) inferior, spreading, nearly equal at the base. *Sepals* 4, elliptical, concave, deciduous. *Petals* (fig. 2.) 4, equal, each with a spreading, rounded, obtuse border, rather longer than its claw. *Filaments* (figs. 1 & 3.) 6, two of them about as long as the calyx, the other four longer, and generally each of them with a sharp lateral tooth. *Anthers* oblong, upright. *Germen* (fig. 4.) oblong. *Style* scarcely any. *Stigma* (see fig. 4.) rather thick and blunt. *Pouch (Silicula)* (fig. 5.) succulent, finally leathery, of 2 joints, each of 1 cell, the upper joint globose, not bursting, deciduous, bearing 1 *seed* inverted, upon a stalk arising from the bottom of the cell (see fig. 6.); lower joint abortive, resembling a pedicle. *Cotyledons* roundish, convex, fleshy, incumbent, and folded lengthwise (conduplicate), see figs. 7 & 8.

The globose, stalked, coriaceous (leathery), deciduous *pouch*, of 1 cell, without valves; and solitary *seed*, with incumbent and conduplicate cotyledons; will distinguish this from other genera in the same class and order.

One species British.

CRA'MBE MARI'TIMA. Sea Kale. Sea Colewort.

SPEC. CHAR. Longer filaments forked. Pouch blunt. Leaves roundish, sinuated, wavy, toothed, glaucous, and, as well as the stem, very smooth.

Engl. Bot. t. 924.—Linn. Sp. Pl. p. 937.—Huds. Fl. Angl. (2nd ed.) p. 299.—Sm. Fl. Brit. v. ii. p. 695. Engl. Fl. v. iii. p. 184.—With. (7th ed.) v. iii. p. 751.—Gray's Nat. Arr. v. ii. p. 689.—Lind. Syn. p. 34.—Hook. Brit. Fl. p. 294.—Lightf. Fl. Scot. v. i. p. 364.—Hook. Fl. Scot. p. 193.—Fl. Devon. pp. 107 & 187.—Johnst. Fl. Bew. v. i. p. 143.—Rev. J. E. Smith's Pl. of S. Kent. p. 36.—Baxt. Lib. of Agr. and Hort. Knowl. (2nd ed.) p. 538.—Loudon's Encyclop. of Gardening, p. 729.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 256.—Mack. Catal. of Pl. of Irel. p. 61.—*Crámbe marítima, Brassicæ folio*, Ray's Syn. p. 307.—*Brassica marina Anglica*, Johnson's Gerarde, p. 315.

LOCALITIES.—On the sea-coast in sandy or stony soils. Not very uncommon.—*Cornwall;* Near Mevagissey: Mr. WATT.—*Cumberland;* Coast between

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Fig. 1. Calyx, Stamens, and Pistil.—Fig. 2. A Petal.—Fig. 3. One of the longer Stamens.—Fig. 4. Germen and Stigma.—Fig. 5. A Pouch, or Silicula.—Fig. 6. Pouch opened virtically, showing the seed suspended by its long curved, capillary stalk.—Fig. 7. The folded Cotyledons and Radicle.—Fig. 8. Transverse section of the same.

* From *krambe*, the Greek name of *Sea-kale* or *Sea-cabbage;* which is derived from *krambos*, Gr. *dry*, because the plants usually grow in sand. DON.

† See *Draba verna*, folio 38, note †.

‡ The first order in the LINNEAN class, TETRADYNA'MIA, containing those plants of that class with a short roundish *pouch*, the longitudinal and transverse diameters of which are nearly equal.

§ See *Draba verna*, fol. 38, a.

|| From *orthos*, Gr. *upright*, and *ploke*, Gr. *a fold;* the cotyledons in this suborder being incumbent (see folio 62, note ||), and at the same time folded together or plaited lengthwise through their middle, enwrapping the radicle in the recess, thus O>>. When this is the case the cotyledons are said to be incumbent and folded.

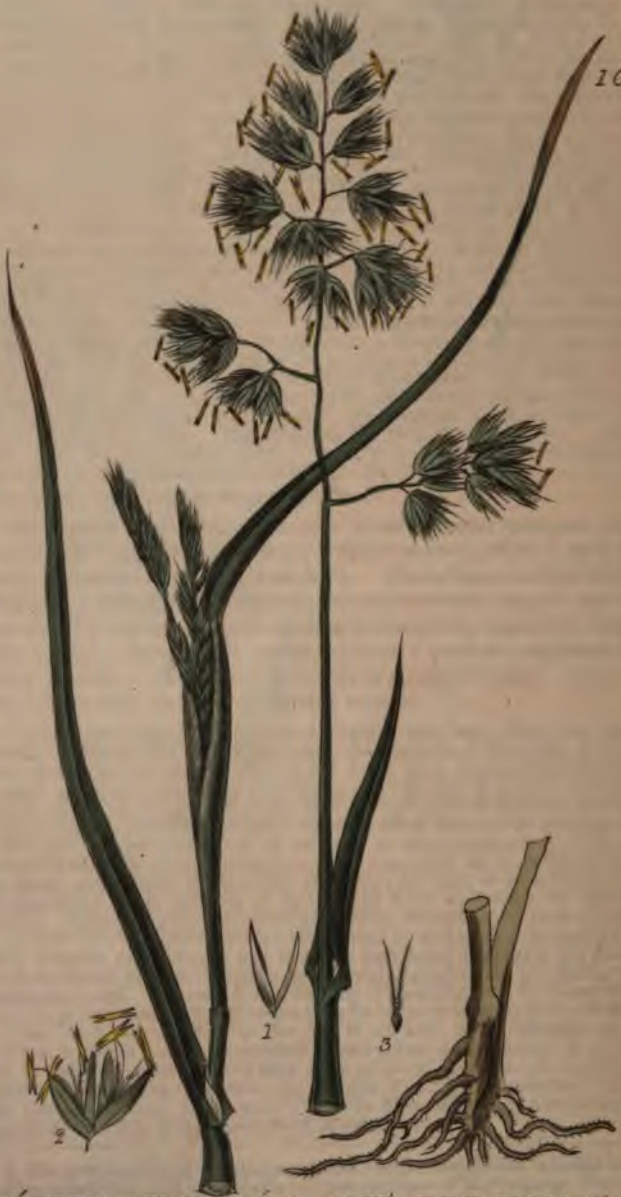
Ravenglass and Bootle: Mr. Wood. Between Maryport and Flimby: Rev. J. Harriman.—*Devon;* Cliffs near Teignmouth: Dr. Maton. Frequent on the marly cliffs, but rare in pure sand: Rev. Dr. Beeke. Sidmouth Cliffs, in inaccessible places: Mr. D. Turner. Cliffs at Dawlish: 1830, Mr. J. H. Parker. Slapton Sands, from thence it was first obtained for cultivation in 1795: Fl. Dev.—*Dorset;* Not uncommon on the sandy shores; on Chesil Bank; about Weymouth; on the Purbeck coast; and at the North Haven, about Poole: Dr. Pulteney. Lulworth Cove: Dr. Withering.—*Essex;* On the sea-shore between the town of Harwich and the Cliff: Dale.—*Hampsh.* Western Court: Dr. Pulteney.—*Kent;* In St. Margaret's and Langdon Bays; and very plentiful on the beach about half way from Dover to Folkstone: Mr. Dillwyn. Lydden Spout; Eastwear Bay; Dover: Rev. G. E. Smith.—*Lancash.* Roosebeck in Low Furness: Mr. Woodward.—*Lincolnsh.* Among the sand hills on the coast, in abundance: Sir Joseph Banks.—*Norfolk;* Abundant at Mundesley: Sir J. E. Smith.—*Suffolk;* On the beach at Dunwich: Mr. Davy. Between Dunwich and Southwold on the Suffolk coast, abundantly: Dr. Withering.—*Sussex;* On the cliffs at Beachy Head; on the beach at East Bourne, and near Shoreham: Mr. Borrer. At Hastings, and Worthing: Mr. T. F. Forster, jun.—*Yorksh.* Cliff at Whitby: Mr. Brunton.—WALES. *Anglesea;* Sandy sea-coast between Rhuddgaer and Llanddwyn: Bingley.—*Carnarvonsh.* On the coast in various parts of the promontory of Llyn: Bingley. Beach near Crickaeth, plentifully: Rev. H. Davies. In the most inaccessible rocks of the Lesser Orme's Head, near Conway, facing North: Mr. Griffith.—*Glamorgansh.* Rocks about Port Eynon: Dr. Turton. *Pembrokesh.* Cliffs at Tenby: Dr. Turton.—SCOTLAND. Near Fast-castle: Rev. J. Lightfoot. Isle of Isla: Dr. Walker.—IRELAND. Strand near Bantry: Mr. Drummond. Sea-coast between Malahide and Beldoyle: Mr. J. T. Mackay.

Perennial.—Flowers in May and June.

Root thick and fleshy. Whole *plant* smooth, glaucous (sea-green), and somewhat succulent. *Stems* several, from 1 to 2 feet high, branched, spreading, and leafy. *Root-leaves* on leaf-stalks, very large, spreading or deflexed, variously waved, jagged, and indented, of a leathery texture; generally sea-green, sometimes tinged with purple. *Stem-leaves* sessile. *Clusters* terminal, collected into dense panicles. *Flowers* white, smelling strong of honey. *Pouches* (fig. 5.) smooth, the size of Black Currants.

"The country people in the West of England have been, from time immemorial, in the practice of watching when the shoots and leaf-stalks begin to push up the sand and gravel in March and April, when they cut them off underground, as is done in gathering *Asparagus*, and boil them as greens. About the middle of the last century the plant was first introduced into gardens, grown on deep sandy soil, and blanched either by sand, ashes, litter, or by covering with flower-pots, earthen pots made on purpose, or any opaque cover. It is now almost as universal in good gardens as *Asparagus*, and, like it, is forced, either by taking up the roots and planting them on a hot-bed, or in a border of a forcing-house, or by covering or surrounding them with litter, in the open garden. Before covering a bed with warm litter, each plant, or stool of plants, is covered with an earthenware blanching-pot, or wicker case, to keep off the dung from the young shoots, and to ensure their being blanched. No plant is so easily forced, and, unlike *Asparagus*, it yields produce the first Spring after raising from seed. The taste is very like that of *Cauliflower*. Professor Martyn has printed some valuable instructions for its cultivation, from the MSS. of the Rev. M. Laurent; and the late Mr. W. Curtis, by a Pamphlet on the Culture, has done more to recommend it, and diffuse the knowledge of it, than any of his predecessors. Don's *Gen. Syst. of Gard. and Bot.*—For more particulars respecting the cultivation. &c. of *Sea-Kale*, see the excellent work of Mr. Don, just quoted; Mr. Loudon's valuable *Encyclopœdia of Gardening;*¶ and Baxter's *Lib. of Agr. and Hort. Knowledge.*

¶ The great number of beautiful wood-cuts, and the vast fund of valuable information which this work contains on every department of Horticulture, Floriculture, Landscape Gardening, &c. as well as the cheapness at which it is published, cannot fail to recommend it to every Gardener and Florist in the kingdom. To the young Gardener it is almost indispensible. Mr. Loudon is now publishing a new, and much improved edition of it, which he is bringing out in Monthly Parts, at a price which will enable every working Gardener, and Gardening Apprentice, to put himself in possession of it.



DÁCTYLIS GLOMERÁTA. *COCK'S-FOOT-GRASS.* ♃

C.M.Del.&Sc. *Pub.d by W.Baxter, Botanic Garden, Oxford, 1834.*

DA'CTYLIS*.

Linnean Class and Order. TRIA'NDRIA†, DIGY'NIA.

Natural Order. GRAMI'NEÆ, Juss. Gen. Pl. p. 28.—Sm. Gram. of Bot. p. 68.—Lindl. Syn. p. 293.; Introduct. to Nat Syst. of Bot. p. 292.—Loud. Hort. Brit. p. 542.—GRAMI'NA, Rich. by Macgilliv. p. 393.—Sm. Engl. Fl. v. i. p. 71.

GEN. CHAR. *Panicle,* with the secondary branches short and very dense, subsecund. *Calyx* (fig. 1.) of 2 unequal, strap-spear-shaped, taper-pointed, keeled, compressed *glumes,* containing a *spikelet* of several *florets* (fig. 2). *Corolla* (see fig. 2.) of 2 unequal, spear-shaped, keeled, compressed *paleæ,* the outer one more or less awned, flat, and membranous at the edges; the inner one about as long as the outer, but narrower, 2-ribbed, folded, and acutely cloven at the point. *Nectary* of 2 spear-shaped, pointed scales, tumid at the base. *Filaments* (see fig. 2.) 3, hair-like, longer than the corolla. *Anthers* oblong, cloven at each end. *Germen* (fig. 3.) roundish. *Styles* (fig. 3.) very short, distinct. *Stigmas* (fig. 3.) spreading, oblong, feathery. *Seed* oblong, with a longitudinal furrow, covered by the unchanged corolla, but loose, not attached to it.

Distinguished from other genera, with a panicled inflorescence, and many-flowered spikelets, in the same class and order, by the unilateral, short, and very dense, secondary branches; the *calyx* of 2 unequal *glumes,* the larger one keeled; and the *corolla* of 2 spear-shaped, scarcely awned *paleæ,* inclosing the *fruit.*

Nearly allied to *Festuca,* and scarcely to be distinguished from that genus, except in habit.

One species British.

DA'CTYLIS GLOMERA'TA. Rough Cock's-foot Grass‡. Orchard Grass.

SPEC. CHAR. Panicle distinctly branched. Flowers in dense globular tufts, pointing one way. Corolla somewhat awned, 5-ribbed, taper-pointed.

Engl. Bot. t. 335.—Knapp's Gram. Brit. t. 62.—Host's Gram. Austr. v. ii. p. 67. t. 94.—Schreb. Besch. der Graser. t. 8. f. 2.—Linn. Sp. Pl. p. 105.—Huds. Fl. Angl. (2nd ed.) p. 43.—Sm. Fl. Brit. v. i. p. 111. Engl. Fl. v. i. p. 134.—With. (7th ed.) v. ii. p. 175.—Gray's Nat. Arr. v. ii. p. 125.—Lind. Syn. p. 310.—Hook. Brit. Fl. p. 44.—Lightf. Fl. Scot. v. i. p. 99.—Leers' Fl. Herb. (2nd ed.) p. 22. t. 3. f. 3.—Martyn's Fl. Rust. t. 14.—Sibth. Fl. Oxon. p. 43.—Abb. Fl. Bedf. p. 20.—Curt. Observ. on British Grasses, (5th ed.) p. 89. t. 7.—Purt. Midl. Fl. v. i. p. 69.—Relh. Fl. Cant. (3rd ed.) p. 39.—Sincl. Hort. Gram. Woburn. p. 23. f. 15. and p. 136., with a plate.—Hook. Fl. Scot. p. 37.—Grev. Fl. Edin. p. 24.—Fl. Devon. pp. 18 & 124.—Johnston's Fl. of Berw. v. i. p. 25.—Baxter's Lib. of Agricul. and Horticul. Know. (2nd ed.) p. 295., with a figure.—Walk. Fl. of Oxf. p. 25.—Bab. Fl. Bath. p. 58.—Mack. Catal. of Pl. of Irel. p. 14.—*Gramen asperum,* Ray's Syn. p. 400.

Fig. 1. Calyx.—Fig. 2. Two Florets, shewing the Stamens and Pistils.—Fig. 3. Germen and Pistils.

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* From *daktulos,* Gr. *a finger;* the cluster of spikes somewhat resembling fingers. WITHERING.

† See *Alopecúrus praténsis,* folio 45, note †.

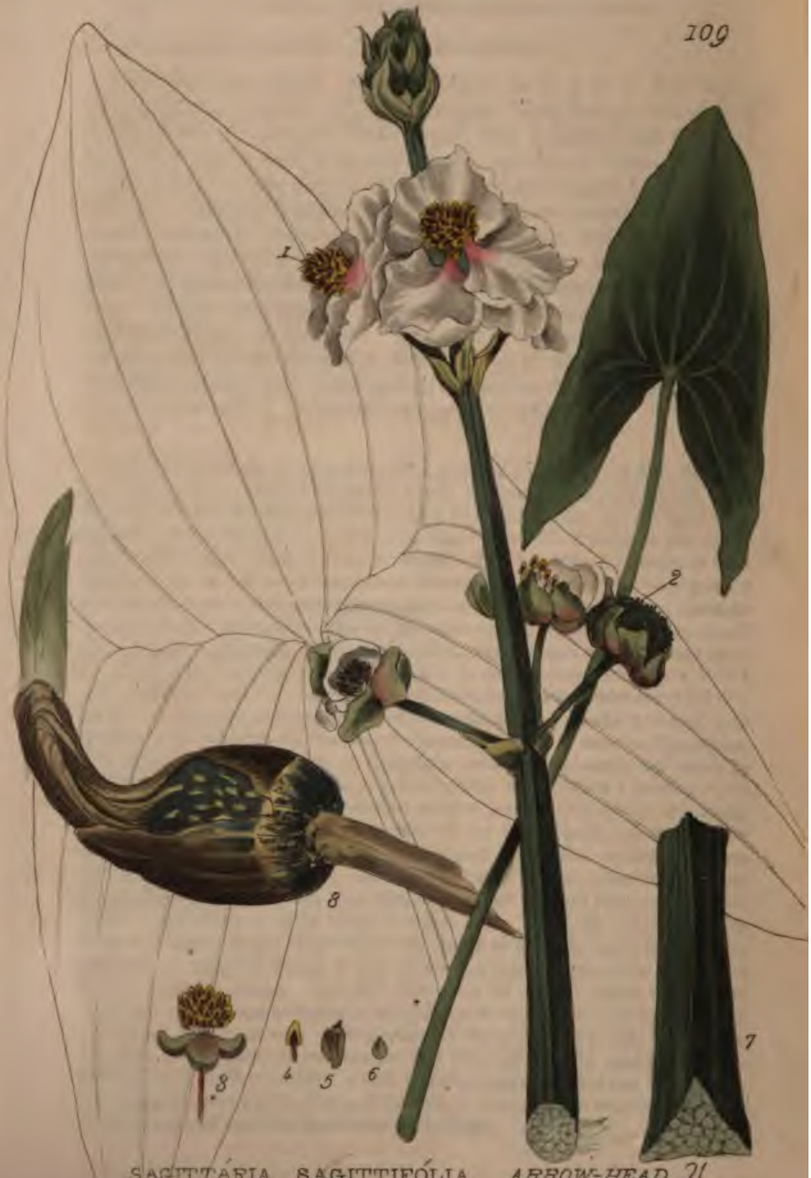
‡ The name of Cock's-foot, by which this grass is known, is not wholly inapplicable, for by inverting the flowering heads, some idea is given of the animal's foot, with the lower branch projecting like a spur. KNAPP.

LOCALITIES.—In meadows, hedges, and shady places. Common.

Perennial —Flowers from June to September.

Root fibrous, tufted. *Culm* upright, from 1 to 3 feet high; somewhat compressed, slightly 2-edged, leafy below, naked and roughish above. *Leaves* strap-shaped, flat, pointed, from 6 inches to a foot and a half long, dull green, spreading, striated, harsh, rough, chiefly at the edges. *Sheaths (vaginæ)* rough, keeled, compressed. *Stipula (ligula)* white, oblong, blunt, mostly torn. *Panicle* alternately branched; branches angular, stiff, very rough, spreading, especially the lowermost, each bearing a compound, egg-shaped or globular, dense tuft, of unilateral, bristly, crowded spikelets. *Calyx* membranous, very unequal; the outer valve (glume) 3-ribbed, rough at the keel. *Florets* 3 or 4, rarely 1 only; outer valve (palea) of the *Corolla* 5-ribbed, rough at the keel, with a short awn-like point; inner valve (palea) fringed at the ribs. *Anthers* of a pale violet colour, or yellow, changing to white.

The Cock's-foot is a rough coarse grass, and hence the names of *Rough-grass* and *Hard-grass;* but it is extremely hardy, productive, and rather early. Its flourishing under the drip of trees may be a recommendation, but the head is so large, that in heavy rains it is apt to be laid. It should always be cut whilst young and tender, either for hay or fodder. The late Mr. G. SINCLAIR considered it one of the most valuable of the grasses. " It springs very quickly after being cropped, and continues productive, with little interruption, throughout the season. Like every other of the more valuable pasture grasses, it will not, when sown by itself, form a close sward, but becomes tufty. When sown in certain proportions according to the soil, in combination with others, it is a very profitable plant. It requires to be depastured closely, under every circumstance, to reap the full advantage of its great merits. In the pastures most celebrated for fattening and keeping the largest quantity of stock in Devonshire, Lincolnshire, and in the Vale of Aylesbury, which we minutely and carefully examined, we found Cock's-foot in every instance to constitute a portion of the herbage. In the most skilfully managed of these pastures, the foliage or herbage of the Cock's-foot was only distinguished by an experienced eye from that of the *Alopecúrus praténsis* (see t. 45), *Pòa praténsis, Pòa triviális, Lolium perénne, Cynosúrus cristátus,* and other fine-leaved grasses, a fact which proves the futility of the objections that have been raised without due consideration against Cock's-foot, as to its being a *coarse* grass. It wants only to be combined with others in due proportion to the nature of the soil, and judiciously depastured, to render it equal, if not superior in value to any of the superior or essential pasture grasses. It flowers from June till August, ripens its seeds in July, or if the herbage of Spring is eaten down to a late period, the seed does not ripen until August, or even the beginning of September. The late Mr. ROGER PARKER, of Munden, Herts, was the first who collected the seed in any considerable bulk for farm practice, which was afterwards extended and brought into more general notice by Mr. COKE, of Norfolk." SINCLAIR, in *Baxter's Library of Agricultural and Horticultural Knowledge.*



SAGITTÁRIA SAGITTIFÓLIA. ARROW-HEAD. ♃

Pub^d by W. Baxter, Botanic Garden. Oxford. 1834.

I. Russell Del. W. E. Albutt Sc.

SAGITTA'RIA *.

Linnean Class and Order. MONŒ'CIA †, POLYA'NDRIA.

Natural Order. ALISMA'CEÆ, *Dr. R. Brown.*—Lindl. Syn. p. 253.; Introd. to Nat. Syst. of Bot. p. 253.—Rich. by Macgilliv. p. 399.—Loud. Hort. Brit. p. 536.—ALISMI'NÆ ; type ALISMA'CEÆ, Burnett's Outlines of Botany, pp. 422 & 423‡.—JUNCI, sect. 3. Juss. Gen. Pl. pp. 43 & 46.—Sm. Gram. of Bot. p. 72.

GEN. CHAR. *Barren (*or *stameniferous) Flowers* (fig. 1.) numerous. *Calyx* (fig. 3.) of 3 egg-shaped, concave, permanent sepals. *Corolla* (see fig. 1.) of 3 roundish, blunt, flat, spreading, deciduous petals, thrice the size of the sepals, and alternate with them. *Filaments* (figs. 3 & 4.) numerous, about 24, awl-shaped, collected into a round head. *Anthers* upright, heart-shaped, much shorter than the petals.—*Fertile (*or *pistilliferous) Flowers* (fig. 2.) fewer, below the barren ones. *Sepals* and *Petals* as in them. *Germens (Ovaries* of Lindl.*)* (fig. 6.) numerous, collected into a head, compressed, tumid externally, tapering into very short styles. *Stigmas* taper-pointed, permanent. *Seeds* (*Nuts* of Lind.) numerous, inversely egg-shaped, compressed, beaked, surrounded with a vertical, dilated, compressed margin, broadest externally. *Embryo* simple, undivided, folded.

The *calyx* of 3 sepals; the *corolla* of 3 petals; about 24 *stamens;* numerous *pistils;* and the numerous, bordered *seeds* (*nuts* of Lind.) will distinguish this from other genera in the same class and order.

One species British.

SAGITTA'RIA SAGITTIFO'LIA. Common Arrow-head.

SPEC. CHAR. Leaves arrow-shaped; the lobes spear-shaped, straight.

Engl. Bot. t. 84.—Linn. Sp. Pl. p. 1410.—Huds. Fl. Angl. (2nd ed.) p. 420.—Sm. Fl. Brit. v. iii. p. 1023. Engl. Fl. v. iv. p. 144.—With. (7th ed.) v. iii. p. 688.—Lindl. Syn. p. 253.—Hook. Brit. Fl. p. 406.—Sibth. Fl. Oxon. p. 178.—Abbot's Fl. Bedf. p. 209.—Purt. Midl. Fl. v. ii. p. 467.—Relh. Fl. Cant. (3rd ed.) p. 394.—Loud. Encycl. of Gard. p. 768, paragraph 1411.—Fl. Devon. p. 154.—Walk. Fl. of Oxf. p. 280.—Perry's Pl. Varvic. Selectæ, p. 78.—Bab. Fl.

Fig. 1. Barren or Stameniferous Flower.—Fig. 2. Fertile or Pistiliferous Flower.—Fig. 3. Calyx and Stamens.—Fig. 4. A single Stamen.—Fig. 5. Seed, or Nut, a little magnified.—Fig. 6. Germen.—Fig. 7. Part of a Leaf-stalk.—Fig. 8. A Tuber.

[*] From *Sagitta*, Lat. an *Arrow ;* from the form of the leaves resembling the head of an arrow.

[†] See *Bryónia dioica*, fol. 83, note †.

[‡] "Outlines of Botany; being a Practical Guide to the Study of Plants. By GILBERT T. BURNETT, Professor of Botany in King's College, London, and Fellow of several Societies." Octavo, 1833. London: published by JOHN CHURCHILL, 16, Prince's Street, Soho.—PROFESSOR BURNETT has rendered very essential service to the science of Botany by the publication of this excellent Work, which is not only replete with scientific instruction, but abounds also in useful practical matter, and amusing information; it is, indeed, one of the very best books that can be recommended to all interested in the delightful science on which it treats. The young Botanist, more especially, will find it a most valuable acquisition to his library, as the great number of excellent Wood-cuts, illustrative of the different subjects described, will greatly facilitate his studies, and enable him to understand, with ease, those particular parts of Plants, on which the characters of the *Classes, Orders, Sections. Types, &c.* are founded. Not only to the Botanical, but also to the Medical Student, and the Naturalist, it will be found a most valuable work, and will amply repay a careful perusal of its pages.

Bath. p. 47.—Mack. Catal. of Pl. of Irel. p. 82.—*Sagittária aquática*, Gray's Nat. Arr. v. ii. p. 216.—*Sagitta*, Ray's Syn. p. 258.—*Sagittária major et minor*, Johnson's Gerarde, p. 416.

Localities.—In watery ditches, ponds, and margins of rivers. Not uncommon in most parts of England, and Ireland. Not found in Scotland: Sir J. E. Smith.—Very abundant about Oxford; also about Rugby in Warwickshire, on the banks of the Avon, and in ponds and watery ditches near it: 1831, W. B.

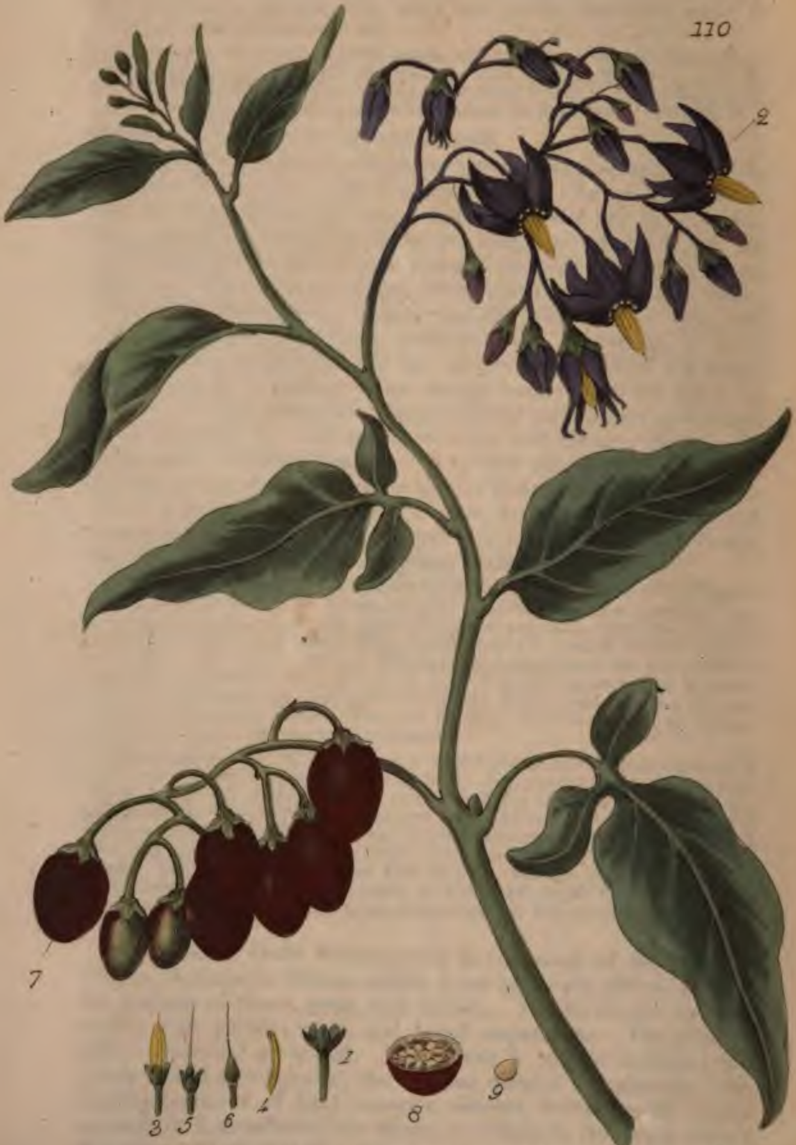
Perennial.—Flowers in July and August.

Root (fig. 8.) tuberous, somewhat egg-shaped, or nearly globular, with many long fibres. *Herb* milky, smooth. *Leaves* all from the root, on long, triangular, very cellular *footstalks* (see fig. 7.); the *first*, which are always under water, long, and strap-shaped, by some authors considered as a variety, and well figured in *Flora Danica*, t. 172.; the *succeeding*, which rise above the water, large, truly arrow-shaped, very entire, smooth, with parallel ribs and reticulated veins.—Nothing, observes Sir J. E. Smith, is more variable than the breadth and size of the *leaves*, which are diminished almost to nothing when deeply immersed in the water, or exposed to a rapid current. Hence several varieties are mentioned by authors, but the slightest observation will discover them to be evanescent. *Flowers* handsome, 3 in each whorl, with combined, egg-spear-shaped bracteas at the base of their partial *stalks*. *Petals* white, with a purplish tinge at the claw, soon falling off. It is not uncommon with very small, narrow leaves, in the canal between High Bridge and Hayfields Hut, near Oxford.

This species of *Sagittaria* is a native of Siberia, China, Cochin-china, Japan, and Virginia, as well as of Europe, in pools, ditches, and slow streams. Representations of this plant often occur on oriental porcelain, associated with the consecrated *Cyamus*, or Sacred Bean, whose history is given in *Exotic* Botany, v. i. t. 59. The late Mr. Payne Knight, so distinguished for his profound learning, suggested to Sir J. E. Smith, that, "as the *Cyamus* is an acknowledged emblem of fertility and reproduction, the Arrow-head indicates the contrary, or a destroying power. They are the Egg, and the Anchor, or Arrow-head, so general in architectural ornaments."

The Arrow-head is one of our most beautiful plants, and a great ornament to our rivers and pools in the months of June, July, and August. The tubers, (fig. 8.) which are produced at the extremity of the roots, in the mud at the bottom of the water, are said to constitute a considerable part of the food of the Chinese, on which account this plant is much cultivated by them; they are said to be very similar to those of the West India Arrow-root, *(Maranta Arundinacea.)* and are sometimes dried and pounded, but are reported to have an acrid unpleasant taste; but this might, it is believed, be got rid of by washing the powder in water.—Horses, goats, and swine eat this plant; cows are not fond of it.

The *Natural Order* Alisma'ceæ is composed of Monocotyledonous, Herbaceous Plants, which grow in watery places, and on the margins of rivers, pools, and brooks. The leaves are radical, entire, with parallel veins, and broad expansions. The flowers either separated or united. The *sepals* 3, and herbaceous; the *petals* 3, and corollaceous; the *stamens* definite or indefinite; the *ovaries* (*germens* of Sm.) superior, several, 1-celled; the *ovules* solitary, or 2, attached to the suture, at a distance from each other; the *styles* and *stigmas* the same number as the ovaries; the *fruit* (*seeds* of Sm.) dry, not opening, 1- or 2-seeded; the *seeds* without albumen; the *embryo* curved in the shape of a horse-shoe, undivided, with the same direction as the seed. See *Lind. Syn.* p. 253.



SOLÁNUM DULCAMÁRA. *WOODY NIGHTSHADE.* ♄

I. Russell Del *Pub.d by W. Baxter, Botanic Garden, Oxford 1834.* *W.E. Albutt Sc.*

SOLA'NUM*.

Linnean Class and Order. PENTA'NDRIA †, MONOGY'NIA.

Natural Order. SOLANEÆ, Juss. Gen. Pl. p. 124.—Sm. Gr. of Bot. p. 101.—Lindl. Syn. p. 180.; Introd. to Nat. Syst of Bot. p. 231.—Rich. by Macgilliv. p. 435.—Loud. Hort. Brit. p. 527.—LURIDÆ of *Linnæus.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, in from 5 to 10, more or less deep, acute segments, permanent. *Corolla* (fig. 2.) of 1 petal, wheel-shaped; tube very short; limb much longer, reflexed, plaited, in 4, 5, or 6 sharp-pointed, equal, rather deep segments. *Filaments* 4, 5, or 6, short, awl-shaped. *Anthers* (figs. 3 & 4.) much longer, oblong, angular, converging, sometimes unequal, opening by two pores at the apex. *Germen*, (figs. 5 & 6.) roundish. *Style* (figs. 5 & 6.) thread-shaped, longer than the stamens, deciduous. *Stigma* blunt, simple or notched. *Berry* (f. 7.) roundish or egg-shaped, smooth, with a hollow dot at the end; of 2, occasionally more, cells. with a fleshy receptacle to each, connected with the partition. *Seeds* (fig. 9.) numerous, roundish, compressed, imbedded in pulp; sometimes minutely dotted. *Embryo*, (according to DE CANDOLLE) spiral.

Distinguished from other genera, with a monopetalous, inferior corolla, in the same class and order, by the *calyx* of from 5 to 10 segments; the wheel-shaped *corolla;* the *anthers* opening by 2 pores at the extremity; and the roundish *berry* of 2 or more cells.

Two species British.

SOLA'NUM DULCAMA'RA ‡. Woody Nightshade. Bitter-sweet.

SPEC. CHAR. Stem shrubby, zigzag, without thorns. Leaves heart-shaped, upper ones hastate. Clusters cymose.

Engl. Bot. t. 365.—Curt. Fl. Lond. t. 14.—Linn. Sp. Pl. p. 264.—Woodv. Med. Bot. v. i. p. 97. t. 33.—Huds. Fl. Angl. (2nd ed.) p. 93.—Sm. Fl. Brit. v. i p. 256. Eng. Fl v. i. p. 317.—With. (7th ed.) v. ii. p. 318.—Lindl. Syn. p. 182.—Hook. Brit. Fl. p. 94.—Lightf. Fl. Scot. v. i. p. 145.—Sibth. Fl. Oxon. p. 78.—Abbot's Fl. Bedf. p. 51.—Purt. Midl. Fl. v. i. p. 129.—Relh. Fl. Cant. (3rd ed.) p. 96.—Hook. Fl. Scot. p. 79.—Grev. Fl. Edin. p. 54.—Fl. Devon pp. 40 & 150.—Johnst. Fl. of Berw. v. i. p. 61.—Thorton's Family Herbal, p. 141.—Walk. Fl. of Oxf. p 63.—Bab. Fl. Bath. p. 33.—Mack. Catal. of Pl. of Irel. p. 24.—*Solánum lignósum, seu Dulcamára*, Ray's Syn. p. 265.—*Dulcamára flexuósa*, Gray's Nat. Arr. of Brit. Pl. v. ii. p. 331.—*Amara dulcis*, Johnson's Gerarde, p. 350.

LOCALITIES.—In moist hedges and thickets. Not uncommon in most counties in England; more rare in Scotland and Ireland.

A Shrub.—Flowers from June to August.

Root woody. *Stem* shrubby, somewhat climbing, branched, thinly beset with small pointed tubercles, slightly angular, and

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Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. The 5 united Anthers.—Fig. 4. A single Anther.—Fig. 5. Calyx, Germen, & Pistil.—Fig. 6 Germen and Pistil.—Fig. 7. A Berry.—Fig. 8. A transverse section of a Berry.—Fig. 9. A Seed.

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* Name of doubtful origin. According to some from *Solamen*, on account of the *comfort* or *solace* derived from some species as a medicine. Dr. HOOKER.

† See *Anchusa sempervirens*, fol. 48, note †.

‡ From *dulcis*, sweet, and *amara*, bitter; in allusion to the flavour of the herb when chewed. LOUDON.

growing, when supported, to the height of many feet. ***Branches*** alternate, the younger ones purplish. ***Leaves*** pointed, alternate, on leafstalks, generally smooth; the lower ones egg-shaped or heart-shaped; the upper ones more or less perfectly halberd-shaped; all entire at the margin. *Flowers* in branched clusters, either opposite to the leaves or terminal, sometimes on the opposite side between two leaves (pedunculus internodis), see the plate. ***Bracteas*** minute. *Corolla* purple, deeply 5-cleft, the segments reflexed, with 2 round, green spots at the base of each. ***Anthers*** large, yellow, upright, united into a kind of cone. Dr. WITHERING observes, that the anthers on the first opening of the blossom are readily separable, but that afterwards growing dryer, they sooner tear than be disjoined. *Berry* egg-shaped. bright red, glossy, bitter, and poisonous. The Flowers are sometimes flesh-coloured, rarely white.

RAY and HUDSON mention a hairy variety as growing on the southern coast of England; and on the 4th of July, 1834, I observed a variety, very common in a hedge bounding a plantation about half a mile below the Spaw at Dorton, the stems and leaves of which were so closely covered with fine white hairs, as to give the whole plant a very hoary appearance.

The white-flowered variety has been noticed about Glasgow by Mr. HOPKIRK: it is also occasionally met with about Oxford; my daughter RUTH brought me a specimen of this variety in flower, on the 14th of July last, which she gathered in a hedge by the side of the footpath between Oxford and South Hinksey.

The *root* and young *branches* of the *Dulcamara*, in the form of a decoction, much diluted with milk, have been recommended in scrophulous or glandular obstructions.

The Berries are tempting to children, and poisonous; though not so much so as those of *Atropa Belladonna*, t. 10.

Sheep and goats eat the plant; horses, cows, and swine refuse it.

The active principle of *Solanum Dulcamara* is an alkali, called *Solania*, which is, in that plant, combined with malic acid. TURNER.

THE NIGHT-SHADE.

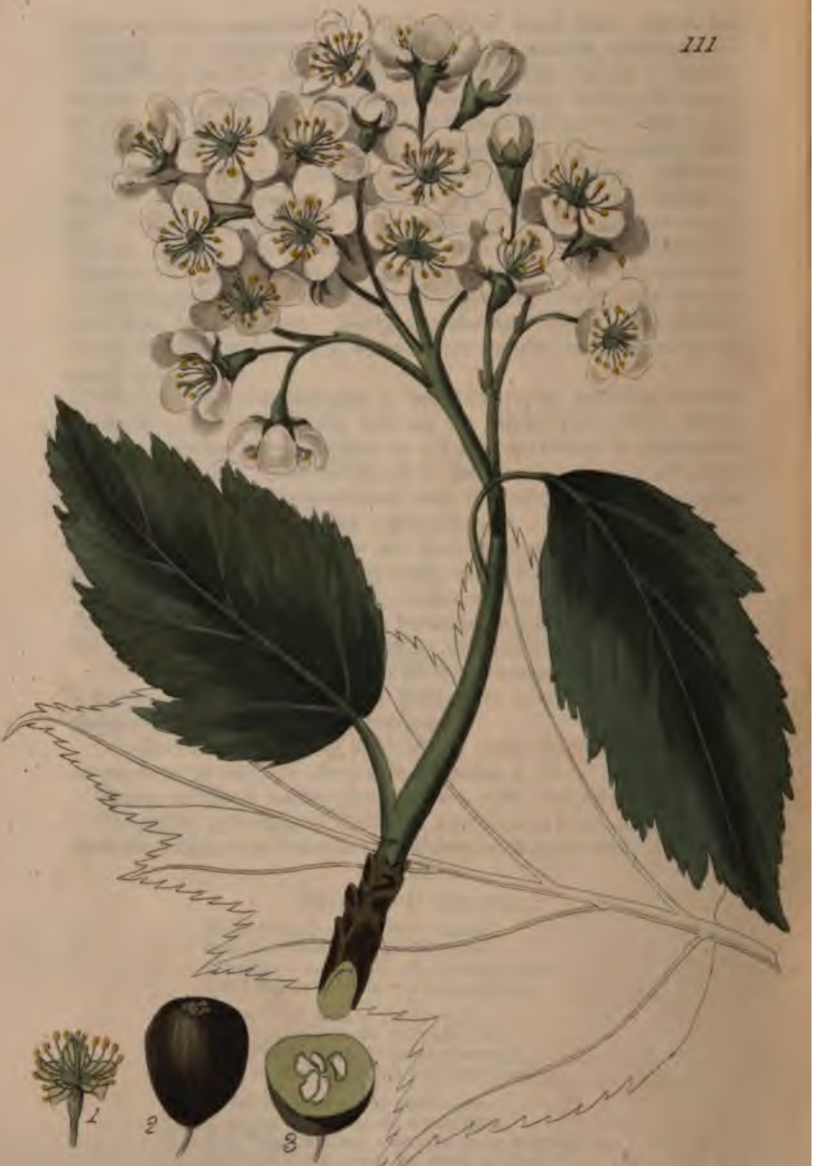
Tread aside from my starry bloom!
I am the nurse, who feed the tomb
(The tomb, my child) with dainties piled,
Until it grows strong as a tempest wild.

Trample not on a virgin flower!
I am the maid of the midnight hour;
I bear sweet sleep, to those who weep,
And lie on their eyelids dark and deep.

Tread not thou on my snaky eyes!
I am the worm that the weary prize,
The Nile's soft asp, that they strive to grasp,
And one that a queen has loved to clasp!

Pity me! I am she, whom man,
Hath hated since ever the world began;
I soothe his brain, in the night of pain,
But at morning he waketh,—and all is vain!

BARRY CORNWALL.



PÝRUS TORMINÁLIS. WILD SERVICE-TREE. ♄

Pub.d by W. Baxter Botanic Garden. Oxford. 1834.

I. Russell Del. W. E. Albutt Sc.

PY'RUS[*].

Linnean Class and Order. ICOSA'NDRIA[†], PENTAGY'NIA[‡].

Natural Order. POMA'CEÆ, Lindl. in Tr. of Linn. Soc. v. xiii. p. 88; Syn. p. 103; Intr. to Nat. Syst. of Bot. p. 83.—ROSA'CEÆ; tribe, POMA'CEÆ, Juss. Gen. Pl. p. 334.—Sm. Gram. of Bot. pp. 171 & 172.—Rich. by Macgilliv. pp. 528 & 530.—Loud. Hort. Brit. pp. 512 & 513.—ROSALES; sect. ROSINÆ; type, PYRIANÆ; subt. PYRIDÆ, Burnett's Outl. of Bot. pp. 614, 683, 693, & 695.

GEN. CHAR. *Calyx* (fig. 1.) superior, of 1 sepal, concave, deeply divided into 5 spreading, mostly permanent segments. *Corolla* of 5 roundish, concave petals, much larger than the calyx, and arising from its rim. *Filaments* (fig. 1.) 20, inserted on the rim of the calyx within the petals, awl-shaped, shorter than the corolla. *Anthers* oblong, of 2 lobes. *Germen* inferior, roundish. *Styles* from 2 or 3 to 5, thread-shaped, about the length of the stamens. *Stigmas* simple, or bluntish. *Fruit* (fig. 2.) roundish, or somewhat oblong, umbilicated, fleshy, of as many cartilaginous or membranous, bivalve cells as there are styles. *Seeds* 2 in each cell, upright, inversely egg-shaped, flattened at one side.

Distinguished from other genera in the same class and order, by the superior, 5-cleft *calyx*; 5 *petals*; and *fruit* with from 2 to 5 membranous 2-valved cells, with 2 seeds in each.

GÆRTNER first united the Linnean Genera, *Py'rus* and *Sorbus*, including *Cydonia* (the *Quince*). The cells of the fruit in *Pyrus* vary, even in one species, the common Pear, from cartilaginous to membranous, and gradations in texture from one species to another are so insensible, that they baffle all generic distinction. The bony cells of *Mespilus*, each of one piece, and not splitting asunder, perhaps sufficiently mark that genus. Sir. J. E. SMITH.

Seven species British.

PY'RUS TORMINA'LIS[§]. Wild Service-tree, or Sorb.

SPEC. CHAR. Leaves simple, egg-shaped or heart-shaped, serrated, 7-lobed; the lower lobes spreading. Flower-stalks corymbose, branched.

Sm. Fl. Brit. v. ii. p. 532. Eng. Fl. v. ii. p. 362.—With. (7th ed.) v. iii. p. 603.—Lind. Syn. p. 105.—Hook. Brit. Fl. p. 222.—Relh. Fl. Cant. (3rd ed.) p. 198.—Fl. Devon. pp. 83 & 170.—Walk. Fl. of Oxf. p. 136.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 647.—Perry's Pl. Varvic. Selectæ, p. 43.—Bab. Fl. Bath, p. 16.—*Cratægus torminalis*, Linn. Sp. Pl. p. 681.—Eng. Bot. t. 298.—Huds. Fl. Angl. (2nd ed.) p. 214.—Gray's Nat. Arr. v. ii. p. 565.—Hunt.

Fig. 1. Calyx, Stamens, and Pistils.—Fig. 2. A Fruit or Apple.—Fig. 3. A transverse section of the same, showing the Cells.

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[*] From the Celtic *peren*, a pear. In Greek *apios*, from *api*, Celtic; whence *apple* in English, *appel*, German; *abhal pradhaugh* in Gaelic. Dr. HOOKER.

[†] See *Prúnus cérasus*, folio 100.

[‡] In this order of the class *Icosándria*, Sir J. E. SMITH has included all such plants of that class as have from 2 to 5 styles, and occasionally, from accidental luxuriance only, 1 or 2 more.

[§] From *tormina*, *gripings*; from the griping pains it produces in the bowels when eaten before the fruit has been touched by the frost, after which it becomes more wholesome. PROFESSOR BURNETT.

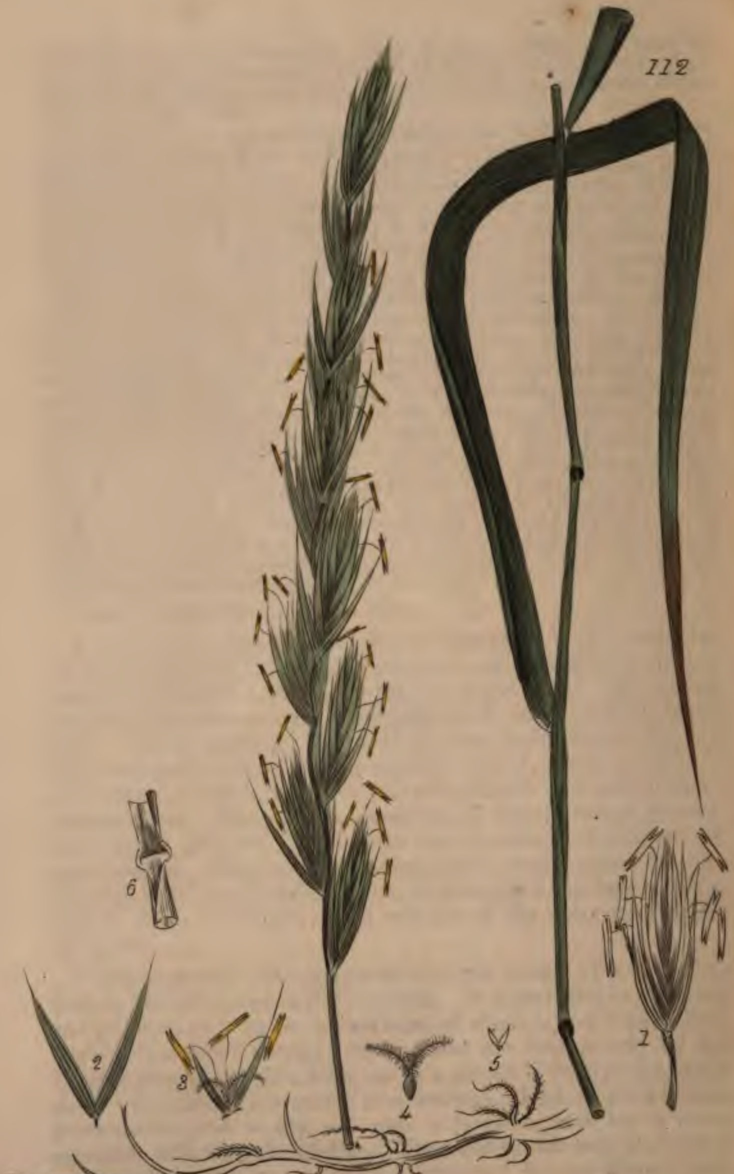
Evelyn's Silva, p. 181, with a plate.—Sibth. Fl. Oxon. p. 156.—Purt. Midl. Fl. v, i. p. 235.—*Sorbus torminalis*, Johnson's Gerarde, p. 1471.—Burnett's Outl. of Bot. p. 698.—*Mespilus Apii folio sylvestris non spinosa, sue Sorbus torminalis*, Ray's Syn. p. 453.

Localities.—In woods and hedges; chiefly in the Midland and Southern counties.—*Oxfordsh.* Woods at Stanton St. John's; Stokenchurch; and near Ashford Mills: Dr. Sibthorp. In woods and hedges on the right-hand side of the road going from Blenheim Park to Stonesfield: July 30, 1831, W. B.—*Berks*, In Bagley Wood, nearly opposite to the village of Kenington: 1824, W. B.—*Cambridgesh.* Gransden: Rev. R. Relhan.—*Cornwall*: Hare Down near Bodmin: Rev. J. Pike Jones.—*Devon;* Hedges and woods at Ilsington; Holne Chace: Rev. A. Nick.—*Dorsetsh.* Woods about Lytchet; Charborough; and Henbury. Broad Wood near Blandford, and many others: Dr. Pulteney.—*Essex;* Plentiful in hedges between Blackmore and Ingatestone: Rev. J. Davies. On Epping Forest, and elsewhere in woods and hedges: Mr. E. Forster, jun —*Herefordsh.* About the centre of the county: Duncumb.—*Herts;* Near Broxted Park: Mr. E. Forster.—*Lancash.* On the rocks at Knot's-hole, near Liverpool, in a situation quite exposed to the salt water, and where it must occasionally be washed by the spray of the sea: Dr. Bostock.—*Middlesex;* Bishop's and Cane Woods, Hampstead: Dr. Martyn.—*Norfolk;* Ditchingham Bath Hills: Mr. Woodward.—*Northamptonsh.* Cliff Woods, and Woods at Oundle: Dr. Martyn.—*Somersetsh.* Hinton Wood, near Bath: Dr. Davis.—*Staffordsh.* Pendeford, in hedges: Mr. Pitt.—*Suffolk;* Darsham: Mr. Davy.—*Surrey;* Between London and Dulwich: Mr. S. Harris.—*Warwickshire;* On the side of the footpath to Mr. Petford's, Alcester Park: Mr. Purton.—*Worcestersh.* Woods on the Malvern Hills: Mr. Edwin Lees, in Loud. Mag. of Nat. Hist. v. iii. p. 161.—WALES. *Denbighsh.* Very common about Gain: Mr. Griffith —*Glamorgansh.* Sides of Neath Walley: Mr. Dillwyn. Woods about Penrice: Dr. Turton.

A Tree.—Flowers in April and May.

A tree of slow growth, but often of considerable size, rising to the height of 40 or 50 feet, with a large trunk, spreading at the top into many branches, so as to form a large head. The young branches are covered with a purplish bark, marked with white spots. *Leaves* alternate, deciduous, on long stalks, broad, smooth, firm, dark-green, veiny, sharply serrated, with 7, sometimes only 5, acute lobes, of which the lower pair are broadest and most distant. *Stipulas* none. *Flowers* white, numerous, in large, terminal, corymbose, downy panicles. *Styles* from 3 to 5, even in flowers of the same panicle. *Fruit* roundish, compressed, shaped somewhat like common Haws, but larger, ripening in Autumn, when they are of a brown colour, and dotted; their cells are of the same number as the styles.

"The fruit of the Service partakes of the quality of the Medlar, both in the green and in the ripe state. It is gathered in bunches, and put into, or hung on, a cleft stick of about a yard long, which becomes a mass of berries; in this state the fruit is sold by the country people, and then hung up in a garden to receive the damp air of the night, which causes it to undergo a kind of putrefactive fermentation, and in this soft state it is eaten, and has a more agreeable acid than the Medlar. The wood of this tree is of a fine hard grain, and very white; it is esteemed by the Turner and Carver, as well as for the making of gun-stocks. It is used by Mill-wrights for cogs to wheels, &c. in preference to any other wood: it is also a very durable wood for buildings that are exposed to a northern aspect." See Phillips' *Pomarium Britannicum,* (2nd ed.) p. 340.



TRÍTICUM RÉPENS. CREEPING WHEAT-GRASS. ♃

C. Mathews, Del. & Sc.   Pub.d by W. Baxter, Botanic Garden, Oxford. 1834.

TRI′TICUM*.

Linnean Class and Order. TRIA′NDRIA†, DIGY′NIA.

Natural Order. GRAMI′NEÆ, Juss. Gen. Pl. p. 28.—Sm. Gr. of Bot. p. 68.—Lindl. Syn. p. 293; Introd. to Nat. Syst. of Bot. p. 292.—Loud. Hort. Brit. p. 542.—GRA′MINA, *Linn.*—Rich. by Macgill. p. 393.—Sm. Engl. Fl. v. i. p. 71.—GRAMINA′LES; sect. TRITICINÆ; type, HORDEA′CEÆ, Burnett's Outl. of Bot. pp. 359 and 362.

GEN. CHAR. *Common Receptacle (rachis)* elongated, toothed alternately on each side, compressed, wavy. *Spikelets* (fig. 1.) solitary at each tooth, lateral, contrary to the main stalk, many-flowered. *Calyx* (fig. 2.) of 2 concave, oblong, ribbed or keeled, nearly equal, opposite *glumes*, with or without terminal awns. *Florets* 3 or more in each spikelet, 2-ranked, applied laterally to the rachis. *Corolla* (fig. 3.) of 2, spear-shaped *paleæ*, outer palea resembling the calyx, concave, keeled or furrowed, pointed or awned; inner palea flat, awnless, inflexed on each side at the lateral rib. *Nectary* (fig. 5.) of 2 pointed scales, tumid at the base. *Filaments* (see fig. 3.) 3, hair-like. *Anthers* (see fig. 3.) strap-shaped, forked at each end. *Germen* (fig. 4.) turbinate. *Styles* (fig. 4.) 2, short, distinct. *Stigmas* (see fig. 4.) feathery. *Seed* egg-shaped, blunt, with a narrow channel along the upper side, loose, but enveloped in the unchanged corolla.

Distinguished from other genera, with aggregate florets on a jointed or toothed rachis, with lateral excavations, in the same class and order, by a solitary, many-seeded *calyx* of 2 transverse opposite *glumes*.

Five species British.

TRI′TICUM RE′PENS. Creeping Wheat-grass. Couch-grass. Squitch.

SPEC. CHAR. Glumes pointed or awned, spear-shaped, many-ribbed. Florets about 5, sharp-pointed or awned. Leaves flat. Root creeping.

Engl. Bot. t. 909.—Knapp. Gr. Brit. t. 111.—Host. Gram. Aust. v. ii. p. 17. t. 21.—Schreb. Beschr. der Graser, t. 26.—Graves' Brit. Grasses, t. 130.—Linn. Sp. Pl. p. 128.—Huds Fl. Angl. (2nd ed.) p. 57.—Sm. Fl. Brit. v. i. p. 158. Engl. Fl. v. i. p. 182.—With. (7th ed.) v. ii. p. 205.—Hook. Brit. Fl. p. 54.—Mart. Fl. Rust. t. 124.—Leers' Fl. Herb. (2nd ed) p. 44. t. 12. f. 3.—Lightf. Fl. Scot. v. i. p. 109.—Sibth. Fl. Oxon. p. 52.—Abbot's Fl. Bedf. p. 27.—Purt. Midl. Fl. v. i. p. 89.—Relh. Fl. Cant. (3rd ed.) p. 51.—Sincl. Hort. Gram. Woburn. p. 27. f. 25.—Hook. Fl. Scot. p. 44.—Grev. Fl. Edin. p. 31.—Fl. Dev. pp. 22 & 125.—Johnst. Fl. Berw. v. i. p. 31.—Curt. Brit. Entomol. v. 7. t. 309.—

Fig. 1. A Spikelet, (rather larger than nature).—Fig. 2. Calyx.—Fig. 3. A Floret, shewing the 2 Paleæ, the 3 Stamens, and the 2 Pistils.—Fig. 4. Germen and Pistils.—Fig. 5. The Nectary.—Fig. 6. The upper part of the Sheath and the base of the Leaves, to show (in the broadest part of the legume) the short stipula.

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* So called because it is *tritum*, beaten, or thrashed, as corn, out of the ear. Dr. WITHERING.

† See *Alopecúrus praténsis*, fol. 45, note †.

Walk. Fl. of Oxf. p. 33.—Bab. Fl. Bath. p. 59.—Mack. Catal. of Pl. of Irel. p. 17.—*Agropyrum repens*, Gray's Nat. Arr. v. ii. p. 96.—Lindl. Syn. p. 299.—*Gramen spica triticea repens vulgare, caninum dictum*, Ray's Syn. p. 390.

LOCALITIES.—In fields, hedges, waste places, and cultivated land, everywhere.

Perennial.—Flowers from June to September.

Root long, creeping very much, so as to be with difficulty extirpated, jointed, clothed with membranous sheaths; fibres downy. *Stems* from 1 to 3 or 4 feet high, upright, slender, round, striated, leafy. *Leaves* spreading, often growing from one side only, strap-shaped, pointed, flat, from 5 inches to a foot long, and 3 or 4 lines broad; lower surface smooth, the margins and the upper surface very rough. *Sheaths* tight, striated, smooth. *Stipula (ligula)* (fig. 6.) very short, and finely notched. *Spike* nearly upright, 3 or 4 inches long, flat, composed of numerous, pretty close, elliptic-oblong *spikelets;* the rachis or common spike-stalk is sometimes hairy, especially at the edges. *Florets* from 4 to 9, the colour of the foliage. *Glumes* of the *Calyx* spear-shaped, ribbed, pointed or awned. Outer *Palea* of the *Corolla* similar to the glumes, but with fewer ribs, and those chiefly towards the summit, which end either in a short point, continued from the *Keel*, or in a terminal rough *Awn*, various in length, but seldom longer than the palea itself; inner Palea obtuse, or notched, awnless. A glaucous variety (*T. junceum* of RELH.) is not uncommon on the sea-coast. I have observed a glaucous variety, probably the same as the above, in Binsey-lane near Oxford; and near the West Leys, at Rugby, in Warwickshire.

This very common grass is the pest of gardens and arable lands; it abounds also in hedges. Several other grasses, however, with creeping roots, are confounded with this by the husbandman, under the names of Quich, Squitch, Couch, &c. all corrupted from Quick, which signifies Living: and this grass was evidently so called, because every particle of the root will grow. On some parts of the Continent the roots are collected in large quantities, and sold in the markets to feed horses. We cannot, says Mr. GRAVES, determine how these roots may be acted upon by the climate, but with us, cattle generally must be hard pressed before they would touch them. They have a sweet taste, somewhat approaching to that of Liquorice; when dried and ground to meal, they are said to have been made into bread in times of scarcity; and on account of the saccharine matter they contain, they have been recommended to be brewed for beer. The juice of them drank liberally, is recommended by BOERHAAVE in obstructions of the viscera, particularly in cases of schirrous liver and jaundice. Dogs eat the leaves as an emetic, probably acting mechanically.

The most effectual method of getting rid of this troublesome weed, is by ploughing, and carefully picking out the roots, by hand, and burning them; fallowing in a dry Summer has been recommended, but the roots have been known to retain their vital properties, after being dried for the Herbarium, and laid by for several months.

In gardens the common method of destroying it, is by forking out the roots as soon as the blade appears, or by trenching the ground very deep, and turning the quich into the bottom below the reach of vegetation. The roots of this plant are seldom found to run more than 9 inches or a foot deep in the ground.

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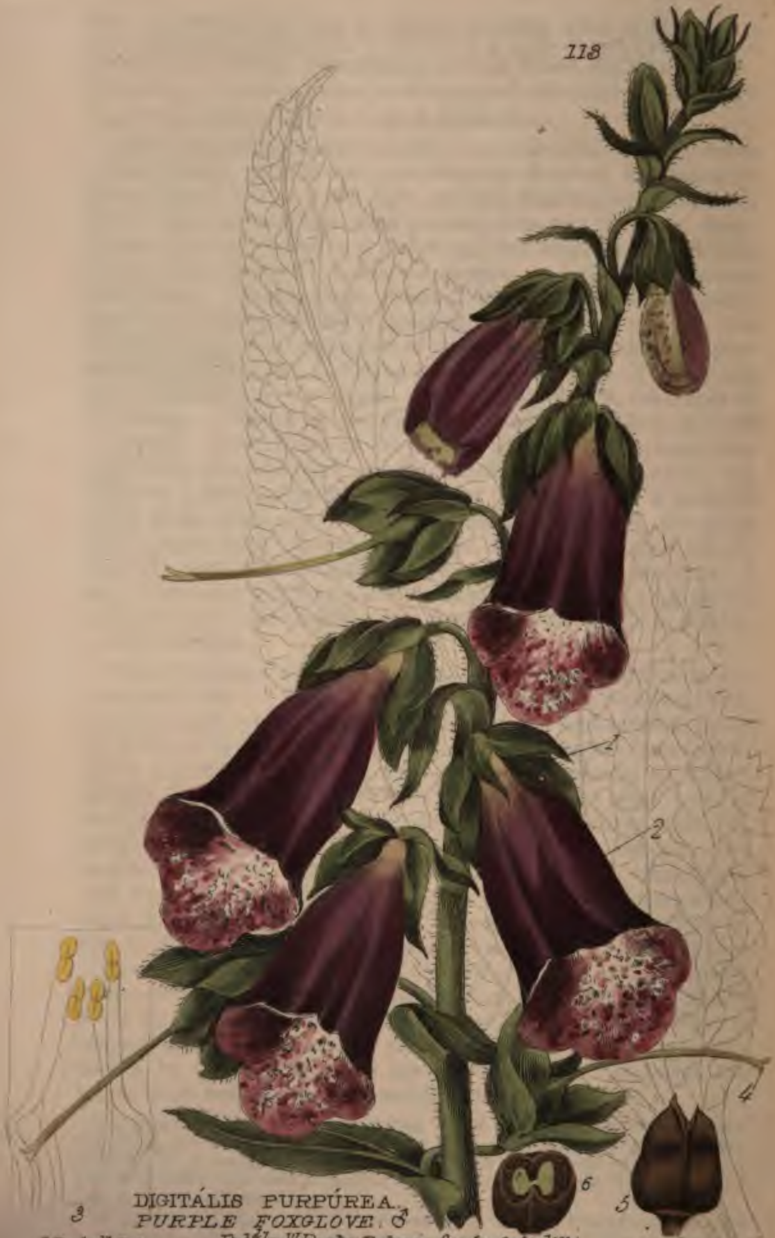

DIGITÁLIS PURPÚREA.
PURPLE FOXGLOVE. ♂

J. Ruſsell, Del. Pub^d. by W. Baxter, Botanic Garden, Oxford, 1834. W.E.A.Sc.

DIGITA'LIS*.

Linnean Class and Order. DIDYNA'MIA †, ANGIOSPE'RMIA ‡.

Natural Order. SCROPHULARI'NEÆ §, *Dr. R. Brown.*—Lind. Syn. p. 187.; Introd. to Nat. Syst. p. 228.—SCROPHULA'RINÆ, Rich. by Macgilliv. p. 434.—Sm. Engl. Fl. v. iii. p. 115.—Loud. Hort. Brit. p. 528.—SCROPHULA'RIÆ, Juss. Gen. Pl. p. 117.—Sm. Gram. of Bot. p. 100.

GEN. CHAR. *Calyx* (fig. 1.) inferior, much shorter than the corolla, of 1 sepal, deeply divided into 5 roundish, pointed segments, permanent; the upper segment narrower than the rest. *Corolla* (fig. 2.) of 1 petal, bell-shaped; *tube* large, cylindrical and contracted at the base, dilated and tumid upwards; *limb* small, with 4 unequal segments, the upper one recurved, slightly cloven, lower one largest. *Filaments* (fig. 3.) 4, two long and two short, awl-shaped, arising from the tube of the corolla towards the base, bent, declining. *Anthers* deeply cloven, pointed. *Germen* egg-shaped, pointed. *Style* (fig. 4.) thread-shaped, as long as the stamens. *Stigma* cloven, pointed. *Capsule* (fig. 5.) egg-shaped, pointed, of 2 cells and 2 cloven valves, with a double partition formed by the inflexed margins of the valves. *Seeds* very numerous, small, oblong, angular, attached to a central, oblong partition in each cell.

Distinguished from other genera in the same class and order, by the 5-cleft *calyx;* bell-shaped, 4-lobed *corolla,* tumid underneath; bent *stamens;* and 2-celled *capsule.*

One species British.

DIGITA'LIS PURPU'REA. Purple Foxglove.

SPEC. CHAR. Segments of the Calyx egg-shaped, acute. Corolla obtuse; its upper lip or lobe scarcely cloven. Leaves downy.

Engl. Bot. t. 1297.—Curt. Fl. Lond. t. 48.—Ray's Syn. p. 283.—Johnson's Gerarde, p. 790.—Linn. Sp. Pl. p. 866.—Huds. Fl. Angl. (2nd ed.) p. 275.—Woodv. Med. Bot. v. i. p. 71. t. 24.—Sm. Fl. Brit. v. ii. p. 665. Eng. Fl. v. iii. p. 140.—With. (7th ed) v. iii. p. 739.—Lindl. Syn. p. 192.—Hook. Brit. Fl. p. 289.—Lightf. Fl. Scot. v. i. p. 330.—Sibth. Fl. Oxon. p. 197.—Abbot's Fl. Bedf. p. 139.—Purt. Midl. Fl. v. i. p. 294.—Thornton's Family Herbal, p. 590.—Hook. Fl. Scot. p. 189.—Grev. Fl. Edin. p. 138.—Fl. Devon. pp. 106 & 148.—Johnston's Fl. of Berw. p. 138.—Curt. Brit. Entomol. v. x. t. 468.—Walk. Fl. of Oxf. p. 180.—Perry's Pl. Varvic. Selectæ, p. 53.—Mack. Catal. of Plants of Irel. p. 59.—Bab. Fl. Bath. p. 34.—*Digitális speciósa,* Salisbury's Prodromus, p. 100.—Gray's Nat. Arr. v. ii. p. 325.

LOCALITIES.—Hedge-banks, woods, and sides of hills on a gravelly or sandy soil. Common in most counties: but not in Norfolk or Suffolk.—It is not found in the immediate neighbourhood of Oxford, its nearest habitat I believe is a copse just above Childswell Farm; and abundant near Cumner; *Berks.*—It grows in the greatest abundance near the woods on Stokenchurch Hill, *Oxfordshire.*—It is also plentiful about Rugby in *Warwickshire.*

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. Stamens.—Fig. 4. Pistil.—Fig. 5. Capsule.—Fig. 6. Transverse Section of Capsule.

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* From *digitus,* a *finger;* its flowers resembling the finger of a glove, (and hence sometimes called *Finger-flower*); so named by Fuchsius, after its German designation. Dr. WITHERING.

† See *Lámium album,* f. 31. n. †. ‡ See *Euphrásia officinális,* f. 72. n. ‡.

§ See *Veronica Chamæ'drys,* f. 50. a.

Biennial.—Flowers from June to August.

Root composed of numerous long and slender fibres. *Stem* from 3 to 5 or 6 feet high, upright, mostly simple, leafy, roundish, with several slight angles, pubescent or downy. *Leaves* alternate, between egg-shaped and spear-shaped, crenate, downy, rugged and veiny, of a dull green above, whitish underneath; tapering at the base into winged footstalks; root-leaves largest. *Flowers* large and handsome, in long terminal spikes or clusters, pendulous, and leaning all one way. *Bracteas* spear-shaped. *Flower-stalks* pubescent, thickest at the top, 1-flowered; after the flower drops off, becoming nearly upright. Segments of the *Calyx* egg-shaped, pointed; the upper segment narrower than the rest. *Corolla* of 1 petal, nearly bell-shaped, above an inch long, purple, (sometimes white), marked in the inside with blood-coloured spots and hairs. The white variety of this is not uncommon in gardens, and it has been found wild in several parts of England, as in Shentone-lane, near Hartlebury, in Worcestershire, by Dr. Stokes; on Ramps Holm in Derwentwater, by Mr. Winch; about Moxhull, Staffordshire, by Dr. Withering; near Bromsgrove, Worcestershire, by Mr. Purton; and by the road-side near Penmynydd, Anglesey, by the Rev. H. Davies.

"Was it not," says Mr. Curtis, "that we are too apt to treat with neglect the beautiful plants of our own country, merely because they are common and easily obtained, the stately and elegant *Foxglove* would much oftener be the pride of our gardens than it is at present; for it is not only peculiarly striking at a distance, but its flowers and their several parts become beautiful in proportion to the nearness of our view. How singularly and how regularly do the blossoms hang one over another! How delicate are the little spots which ornament the inside of the flower! and like the wings of some of our small Butterflies, smile at the attempt of the Painter to do them justice; how pleasing is it to behold the nestling Bee hide itself in its pendulous blossoms! while extracting its sweets which furnish our tables with honey, and our manufacturers with wax: nor are the more interior parts of the flower less worthy of our admiration, or less adapted to the improvement of the young Botanist: here all the parts of the fructification being large, he will readily obtain a distinct idea of them; but more particularly of the form of the anthers, and the alteration which takes place in them, previous to, and after the discharge of the pollen." *Fl. Lond.*

"Old authors recommend the *Foxglove* as a pulmonary and epileptic medicine boiled in wine or water, without any particular caution: the leaves are now considered as one of our most valuable diuretics in dropsy, either in powder, infusion, or tincture, and as a sedative in pulmonary consumption; but it must be employed with care, as it has a great effect in reducing arterial action, and retarding the pulse, and this action is frequently exerted suddenly, by the accumulated effects of small doses, so that if the practitioner be not constantly on his guard, he may be surprised by the occurrence of fatal symptoms and lose his patient, even after he has relinquished the use of the medicine." *Gray's Nat. Arr.*

"We have few indigenous plants," observes Mr. Knapp, "not one, perhaps, which we have so often summoned to aid us in our distresses as the *Foxglove;* no plant, not even the *Colchicum,* (t. 17.) has been more the object of our fears, our hopes, our trust, and disappointment, than this: we have been grateful for the relief it has afforded, and we have mourned the insufficiency of its powers; could we rely upon its yielding the virtues it is considered to possess, or could we regulate or controul its influence, it would exist unrivalled for beauty and worth amidst our island plants." *Journal of a Natur.* 2nd ed. p. 90.

Those who wish for more particular information respecting the medical properties of this plant, may consult Dr. Withering's *Account of the Foxglove,* published in 1785, and since reprinted in the Memoirs and Tracts of that author, vol. ii. p. 103.—Woodville's *Medical Bot.* v. i. p. 71.—Thornton's *Family Herbal,* p. 590, &c.

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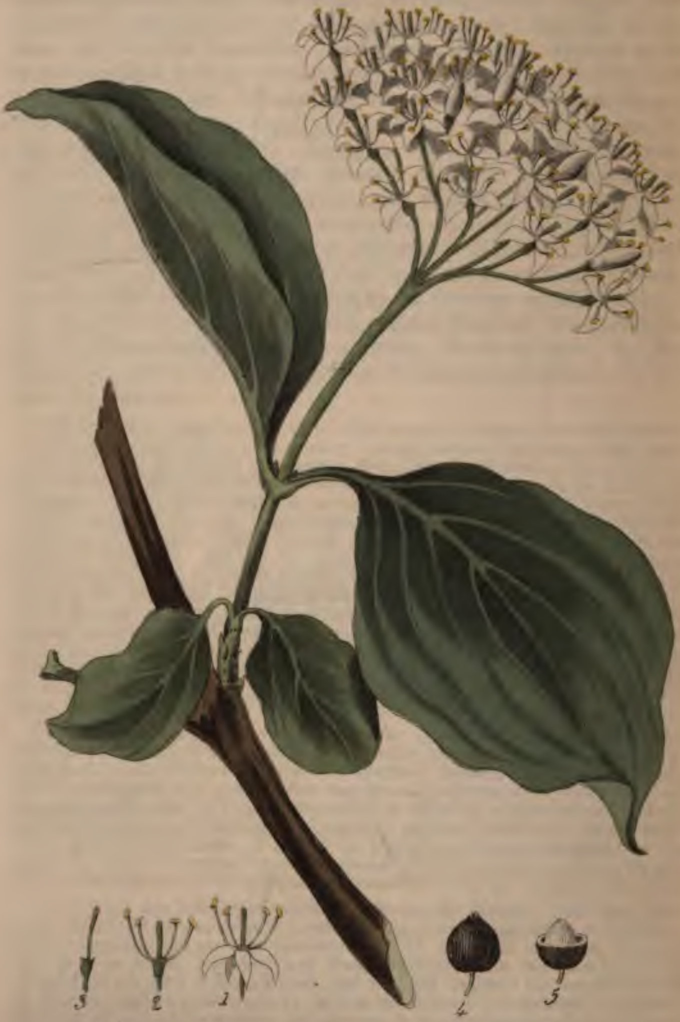

CÓRNUS SANGUINEA. *WILD CORNAL.* ♄

I. Russell, Del. Pub^d by W. Baxter, Botanic Garden, Oxford 1831. W.E.A. Sc.

(114.)

CO'RNUS*.

Linnean Class and Order. TETRA'NDRIA†, MONOGY'NIA.

Natural Order. CAPRIFOLIA'CEÆ; Sect. HEDERA'CEÆ; *Decand.*—Lind. Syn. pp. 131 & 132; Introd. to Nat. Syst. pp. 206 & 207.—Rich. by Macgilliv. pp. 460 & 461.—Loud. Hort. Brit. p. 519.—CAPRIFOLI'A; Sect. 4, Juss. Gen. Pl. pp. 210 & 214.—Sm. Gr. of Bot. pp. 129 & 131.—ROSALES; Sect. ARALINÆ; Type, CORNEA'CEÆ; Burn. Outl. of Bot. pp. 614, 765, & 766.—STELLATÆ, *Linn.*

GEN. CHAR. *Calyx* (see fig. 3.) superior, of 4 minute, deciduous teeth. *Corolla* (fig. 1.) of 4, oblong, pointed, flat, equal *petals*, broad at the base. *Filaments* (see figs. 1 & 2.) 4, awl-shaped, upright, longer than the petals, and alternate with them. *Anthers* roundish, incumbent. *Germen* (see fig. 3.) inferior, roundish, compressed. *Style* (see fig. 3.) thread-shaped, as long as the corolla. *Stigma* blunt. *Drupe* (figs. 4 & 5.) roundish, naked and pitted at the summit. *Nut* oblong, or somewhat heart-shaped, of 2 cells, with 1 seed in each.

The herbaceous species of this genus have always a large white *involucrum* of 4 leaves, under each umbel; the shrubby cymose species have none.

Distinguished from other genera with a *corolla* of 4 petals in the same class and order, by the inferior *drupe*, with a *nut* of 2 cells and 2 seeds, and the petals having no nectary.

Two species British.

CO'RNUS SANGUI'NEA. Wild Cornel-tree. Dog-wood.

SPEC. CHAR. Arborescent; branches straight. Leaves opposite, egg-shaped, green on both sides. Cymes flat, without an involucrum.

Engl. Bot. t. 249.—Linn. Sp. Pl. p. 171.—Huds. Fl. Angl. (2nd ed.) p. 70.—Sm. Fl. Brit. v. i. p. 188. Engl. Fl. v. i. p. 221.—With. (7th ed.) v. ii. p. 236.—Gray's Nat. Arr. v. ii. p. 490.—Lindl. Syn. p. 133.—Hook. Br. Fl. p. 69.—Sibth. Fl. Oxon. p. 61.—Abbot's Fl. Bedf. p. 35.—Purt. Midl. Fl. v. i. p. 100.—Relh. Fl. Cantab. (3rd ed.) p. 65.—Hook. Fl. Scot. p. 55.—Grev. Fl. Edin. p. 38.—Fl. Devon. pp. 29 & 164.—Walk. Fl. of Oxf. p. 41.—Mack. Catal. of Pl. of Ireland, p. 19.—Bab. Fl. Bath. p. 22.—*Cornus fœmina,* Ray's Syn. p. 460.—Johnson's Gerarde, p. 1467.

LOCALITIES.—In woods and hedges, especially on a chalky or limestone soil.—Common.

A Shrub.—Flowers in June, and sometimes again in September and October.

Fig. 1. Corolla, Stamens, and Pistil.—Fig. 2. The same, with the Petals removed.—Fig. 3. Germen, Style, and Stigma.—Fig. 4. Drupe.—Fig 5. The same, with the upper half of the fleshy covering removed to show the Nut.

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* From *cornu*, a *horn;* on account of the hard compact nature of the wood.

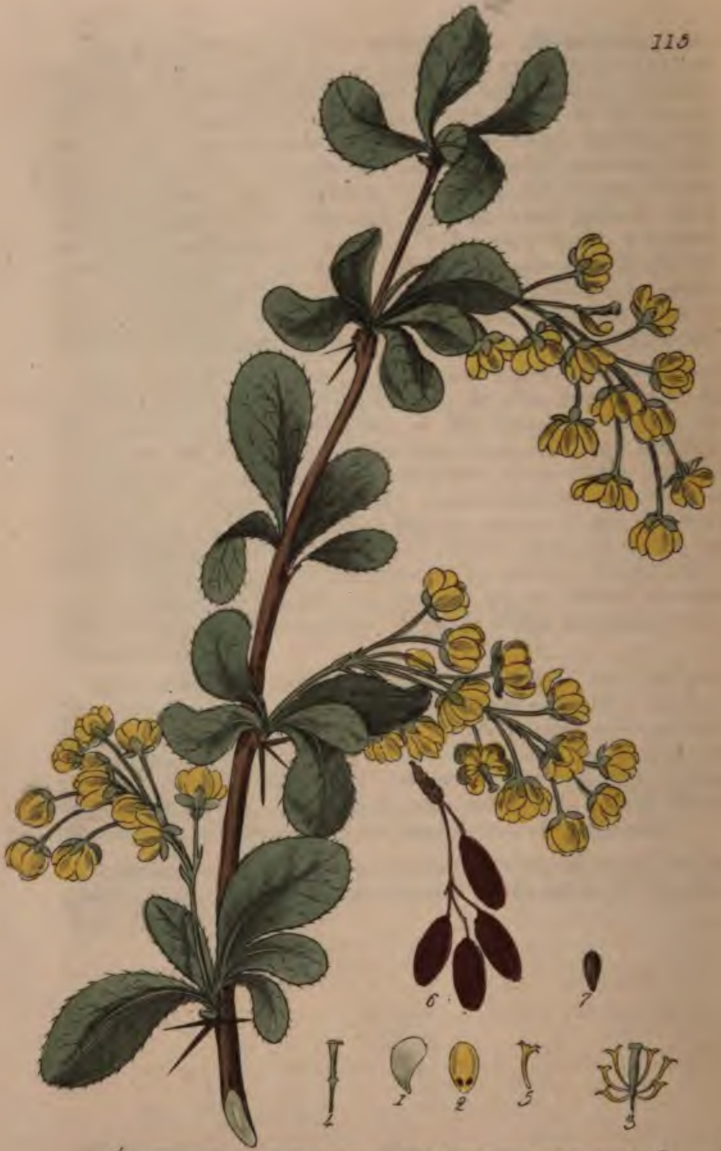
† The 4th class in the LINNEAN *Artificial System;* it comprehends all those plants which have perfect flowers, with 4 distinct, equal stamens in each.

This grows from 4 to 8 or 10 feet high. *Branches* opposite, straight, round, smooth, the younger ones of a dark red colour, especially on the side most exposed to the light. *Leaves* opposite, stalked, quite entire, but sometimes a little waved at the margin, egg-shaped, pointed, nearly smooth on the upper surface, more hairy on the under, strongly nerved, with many transverse veins; they change to a blood-red colour before they fall. *Cymes (tufts)* terminal, composed of numerous, greenish-white *flowers*, which are rather unpleasantly scented. *Calyx* very small, 4-toothed. *Petals* spear-shaped, revolute at the sides, inserted, with the stamens, into a glandular, 4-lobed ring, which crowns the *germen*. *Fruit* dark purple, very bitter, like every other part of the plant. A variety with variegated leaves, is sometimes cultivated in gardens.

Cornus sanguinea will grow under the drip of other trees, and on that account it is a valuable shrub in close plantations. Its flowers are not very showy; but, as Mr. PHILLIPS observes, the variety of red, yellow, and umber tints which its foliage affords in the Autumn, and the beautiful red colour of its young branches during the Winter months, fully compensates for any want of splendour in its blossoms. The English names of this shrub are rather numerous. It is often called *Female cornel*, to distinguish it from *Cornus mascula;* and *Hound's berry-tree; Hound's tree; Dog's berry-tree; Prick-wood*, from its use in making skewers. *Gatten-tree;* and *Bloody-twig*. It is the *Virga sanguinea* of ancient authors.

The berries of this shrub are bitter and styptic; they dye purple; and the fleshy part of them abounds in oil, which in many parts of the Continent is extracted by boiling and pressure, both for burning and for table use. The wood is hard, and is made use of for cart timber and rustic instruments, for mill-cogs, spokes, lace-bobbings, butchers' skewers, and tooth-picks. It also affords one of the best charcoals for the manufacture of gunpowder.

A small parasite, *Sphæ'ria cornicola*, FRIE'S *Systema Mycologinum*, v. ii. p. 530, is sometimes found on the leaves of this plant about Oxford.



BÉRBERIS VULGARIS. *COMMON BARBERRY.* ♄

Pub^{d} by W. Baxter Botanic. Garden Oxford, 1831.

I Ruſsell Del. *C Mathews Sc.*

BE'RBERIS*.

Linnean Class and Order. HEXA'NDRIA †, MONOGY'NIA.

Natural Order. BERBERI'DEÆ, *Vent.*—Lindl. Syn. p. 14.; Introd. to Nat. Syst. p. 30.—Rich. by Macgilliv. p. 469.—Loud. Hort. Brit. p. 497.—BERBERIDES, Juss. Gen. Pl. p. 286.--Sm. Gram. of Bot. p. 154.—ROSALES; Subord. RHÆADOSÆ; Sect. RANUNCULINÆ; Subsect. BERBERIANÆ; Type, BERBERACEÆ; Burn. Outl. of Bot. pp. 614, 784, 828, 829, & 831.

GEN. CHAR. *Calyx* inferior, of 6 spreading, concave, coloured, deciduous sepals; the 3 outer ones the smallest. *Corolla* of 6 roundish egg-shaped, concave, spreading petals, opposite to the sepals, each with 2 oblong, more deeply coloured, probably nectariferous glands at the base (fig. 2.). *Filaments* (fig. 3.) 6, strap-shaped, flattened, blunt, opposite to the petals, but shorter, attached to the base of each. *Anthers* of 2 separate lobes, on the opposite edges of the summit of the filament, each opening by a valve, from the bottom upwards. *Germen* (fig. 4.) superior, cylindrical, as long as the stamens. *Style* none. *Stigma* single, round and flat, broader than the germen, acutely bordered, permanent. *Berry* (fig. 6.) oblong, blunt, of one cell, pulpy, opening at the top. *Seeds* (fig. 7.) 2 or 3, oblong, cylindrical, upright, attached by short stalks to the lower part of the cell.

The *calyz* of 6 sepals; the inferior *corolla* of 6 petals; and the 2 or 3 seeded *berry;* will distinguish this from other genera in the same class and order.

One species British.

BE'RBERIS VULGA'RIS. Common Barberry. Pipperidge-bush.

SPEC. CHAR. Thorns 3-cleft. Clusters pendulous. Leaves inversely egg-shaped, oblong, with bristly serratures. Petals entire.

Engl. Bot. t. 49.—Linn. Sp. Pl. p. 471.—Huds. Fl. Angl. (2nd ed.) p. 137.—Sm. Fl. Brit. v. i. p. 387. Engl. Fl. v. ii. p. 184. Tracts on Natural History, p. 165.—Woodv. Med. Bot. Suppl. t. 234.—With. (7th ed.) v. ii. p. 450.—Gray's Nat. Arr. v. ii. p. 708.—Lindl. Syn. p. 14.—Hook. Brit. Fl. p. 150.—Lightf. Fl. Scot. v. i. p. 178.—Sibth. Fl. Oxon. p. 108.—Abbot's Fl. Bedf. p. 80.—Purt. Midl. Fl. v. i. p. 180.—Relh. Fl. Cant. (3rd ed.) p. 145.—Hook. Fl. Scot. p. 111.—Grev. Fl. Edin. p. 82.—Fl. Devon. pp. 63 & 192.—Johnst. Fl. Berw. v. i. p. 81.—Curt. Brit. Entomol. v. viii. t. 378.—Walk. Fl. of Oxf. p. 101.—Perry's Pl. Varvic. Selectæ, p. 32.—Bab. Fl. Bath. p. 2.—Mack. Catal. of Pl. of Irel. p. 34.—*Berberis dumetorum*, Ray's Syn. p. 465.—*Spina acida, sive oxyacantha*, Johnson's Gerarde, p. 1325.

LOCALITIES.—In woods, and hedges, and on bushy calcarious hills.—*Oxfordshire;* Medley: Dr. SIBTHORP. In hedges by the road side between Middleton Stony and Ardley; plentiful: July 22, 1831, W. B. Abundant in a hedge that divides Bucknell-field from that of Ardley: Rev. W. BAKER, M.A. About Great Chesterton and Bucknell: Mr. G. WOODWARD. On the walls of Godstow Nunnery: Rev. R. WALKER.—*Berks;* In Bagley Wood: 1834. W. B. In a hedge in the Vineyard Piece, near Cumner: Mrs. KING.—*Bedfordshire;* Clapham Lane, and Milton Ernys: Rev. C. ABBOT.—*Cambridgesh.* Chester-

Fig. 1. A Petal.—Fig. 2. Inside view of a Petal, showing the 2 nectariferous glands at its base.—Fig. 3. Stamens, Germen, and Stigma.—Fig. 4. Germen and Stigma.—Fig. 5. A single Stamen.—Fig. 6. A Cluster of Berries.—Fig. 7. A Seed.

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* *Berberys* is the Arabic name of the fruit.

† See *Galanthus nivalis*, folio 33, note †.

ton; Granchester; Triplow; Hinton; and Hildersham: Rev. R. Relhan.—*Devon;* Near Chudleigh; Ilsington; and Plymouth: Fl. Devon.—*Essex;* About Walden: Dr. Withering. Frequent in *Norfolk* and *Suffolk*, and most other counties.—*Somersetsh.* Near Tadwick; the top of the hill at Lyncombe; and Bradford: Fl. Bath.— *Warwicksh.* Oversley; Grafton; and Bilsley: Mr. Purton. Leek Wootton; and Warwick: Mr. W. G. Perry. In hedges near Bilton Hall, and on the Banks of the Avon near Holbrook Grange, near Rugby: 1831, W. B.—In IRELAND and SCOTLAND.

Shrub.—Flowers in May and June.

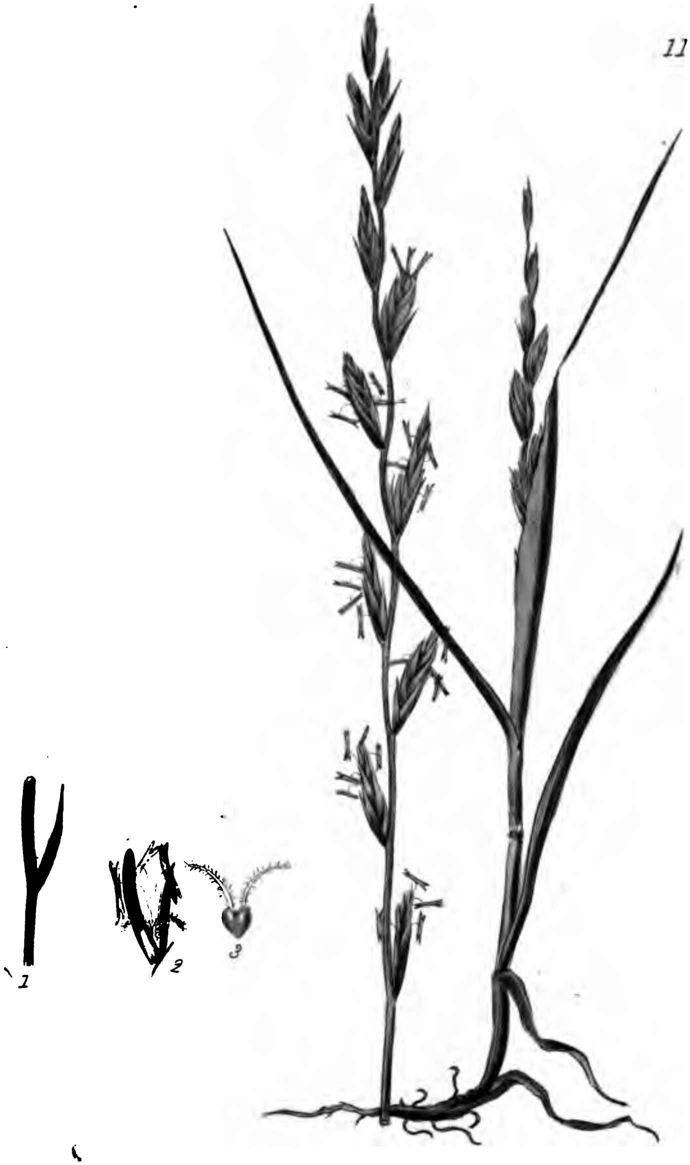
A bushy *Shrub* from 3 to 6 or 8 feet high, in a cultivated state, often much taller. *Branches* alternate, flexible, angular, with a pale brown bark. *Leaves* in tufts, from lateral buds, deciduous, stalked, somewhat inversely egg-shaped, more or less pointed, between serrated and fringed. *Thorns* at the base of each leaf-bud, 3-cleft, spreading, sharp; channelled underneath. *Clusters* solitary, from the centre of each bud, stalked, simple, many-flowered, drooping, longer than the leaves. *Flowers* of a bright yellow colour, with red glands. *Berries* red, oblong, a little curved, very acid. The irritability of the stamens of this plant is very remarkable, if the inside of the filaments be touched near the base, by any extraneous body, as the point of a needle, &c. they immediately spring up, and strike the anthers against the stigma.

The inner bark of the stem infused in beer has the reputation of curing the jaundice. With the assistance of alum it dyes linen a beautiful yellow. The roots boiled in lye, dye wool yellow. The astringent principle is so abundant in the bark of this plant, that it is used in Poland to tan leather. The acid present in the Barberry is the oxalic, and it renders the berries so sour that birds will not eat them; but boiled with sugar they form a most agreeable rob or jelly. A very refreshing drink, which is considered serviceable in fevers, is made by bruising the berries, and steeping them in water.

A small parasitical fungus (*Æcidium Berberides*) is very frequent on the leaves, and some have supposed that it generates the dust which, carried from the bush by winds, gives rise to the minute fungus which is the cause of the rust in wheat and other corn; this opinion, however, is groundless, for the rust in corn is occasioned by the growth of *Puccinia graminis*, a very different plant from that which grows on the leaves of the Barberry. There is, however, another parasite still more common on the leaves of this shrub than the *Æcidium*, and that is the *Erysiphe Berberides*, or Barberry Mildew; this frequently covers the whole surface of the leaves with a thin white substance, which, when examined with a microscope, appears to consist of very delicate, forked filaments, with very minute dark-coloured, globular bodies, interspersed amongst them. Whether this has any influence in causing the mildew in corn, growing in its neighbourhood, I am not prepared to say.

A variety with berries destitute of seed is cultivated in gardens; the berries of this variety are preferable to those of the other for making rob or jelly. They are frequently preserved for garnishing dishes in the Winter.

The *Natural Order* Berberi'deæ consists of Shrubs or perennial herbaceous Plants, for the most part smooth, and with simple or compound leaves, which are alternate, and destitute of Stipules. The *flowers* are yellow or white, and usually disposed in racemes or panicles. The *sepals*, which are deciduous, are either 3, 4, or 6, in a double row, surrounded externally by petal-like scales. The *petals* are hypogynous (inferior), either equal in number to the sepals, and opposite to them, or twice as many, generally with an appendage at the base in the inside. The *stamens* are equal in number to the petals, and opposite to them. The *anthers* have generally two separated cells, opening from the bottom to the top by a small somewhat elastic valve. The *ovarium* is solitary, and 1-celled; the *style* rather lateral; and the *stigma* orbicular. The *fruit* is berried or capsular, and 1-celled. The *seeds* are 1, 2, or 3, and are attached to the bottom of the cell on one side. The *albumen* is between fleshy and corneous; the *embryo* straight in the axis; and the *cotyledons* flat.—See *Lind. Syn.*



LÓLIUM PERÉNNE *PERENNIAL RYE-GRASS* ♃

Pub.d by W. Baxter, Botanic Garden, Oxford, 1834.

LO'LIUM[*].

Linnean Class and Order. TRIA'NDRIA[†], DIGY'NIA.

Natural Order. GRAMI'NEÆ, Juss. Gen. Pl. p. 28.—Sm. Gr. of Bot. p. 68.—Lindl. Syn. p. 293. Introd. to Nat. Syst. of Bot. p. 292. Loud. Hort. Brit. p. 542.—GRA'MINA, *Linn.*—Rich. by Macgilliv. p. 393.—Sm. Engl. Fl. v. i. p. 71. GRAMINA'LES; Sect. TRITICINÆ; Type, HORDEA'CEÆ; Burnett's Outl. of Bot. pp. 359 & 362.

GEN. CHAR. *Common Receptacle (rachis)* elongated, alternately channelled to receive the separate spikelets. *Spikelets* many-flowered, at right angles with the rachis. *Bractea* (see fig. 1.) of 1 spear-shaped, slightly concave, permanent leaf, at the base of each spikelet. *Calyx* of 2 lateral glumes, often deficient. *Corolla* (fig. 2.) of 2, nearly equal paleæ, the *outer palea* spear-shaped, or elliptical, concave, somewhat keeled, acute, cloven at the point, more or less awned; the awn terminating the keel, at the cleft of the palea. *Inner palea* elliptical, rather smaller than the outer, inflexed at the edges. *Nectary* of 2, sometimes cloven, scales. *Filaments* (see fig. 2.) 3, hair-like, shorter than the corolla. *Anthers* oblong, cloven at each end. *Germen* (see fig. 3) blunt. *Styles* (see fig. 3.) very short. *Stigmas* (see fig. 3.) oblong, feathery along the upper side. *Seed* oblong, channelled in front, where it is united to the inner palea of the corolla, being loosely invested on the opposite side with the outer palea.

Distinguished from other genera, with aggregate florets on a jointed or toothed rachis, with lateral excavations, in the same class and order, by a bractea (a 1-valved calyx, of *Linn.*) at the base of each spikelet.

Three species British.

LO'LIUM PERE'NNE. Perennial Darnel. Ray-grass. Rye-grass. Red Darnel. Crop.

SPEC. CHAR. Paleæ very slightly awned. Spikelets longer than the bracteæ. Florets spear-shaped.

Engl. Bot. t. 315.—Knapp's Gr. Brit. t. 100.—Host. Gr. Austr. v. i. p. 20. t. 25.—Schreb. Beschr. der Graser. t. 37.—Graves' Br. Grasses, t. 115.—Hook. Fl. Lond. t. 18.—Linn. Sp. Pl. p. 122.—Huds. Fl. Angl. (2nd ed.) p. 55.—Sm. Fl. Brit. v. i. p. 148. Engl. Fl. v. i. p. 173.—With. (7th ed.) p. 199.—Gray's Nat. Arr. v. ii. p. 93.—Lindl. Syn. p. 295.—Hook. Brit. Fl. p. 56.—Leers' Fl. Herb. (2nd ed.) p. 46. t. 12. f. 1.—Mart. Fl. Rust. t. 4.—Lightf. Fl. Scot. v. i. p. 107.—Sibth. Fl. Oxon. p. 50.—Abbot's Fl. Bedf. p. 26.—Purt. Midl. Fl. v. i. p. 87.—Relh. Fl. Cant. (3rd ed.) p. 48.—Sincl. Hort. Gram. Woburn. p. 25. f. 22. and p. 211, with a plate of the slender variety *(tenue)*; and p. 216, with a plate of Russell's variety *(Russellianum)*.—Curt. Observ. on the Brit. Grasses, (5th ed.) p. 31.—Hook. Fl. Scot. p. 45.—Grev. Fl. Edin. p. 31.—Fl. Devon. pp. 23 & 123.—Johnst. Fl. of Berw. v. i. p. 30.—Baxter's Lib. of Agricul. and Hort. Knowl. (2nd ed.) p. 304, with a figure.—Walk. Fl. of Oxf. p. 31.—Bab. Fl. Bath. p. 60.—Mack. Catal. of Pl. of Irel. p. 16.—*Lolium rubrum*, Johns. Ger. p. 78.—*Gramen loliaceum angustiore folio et spicâ*, Ray's Syn. p. 395.

Fig. 1. Portion of the Rachis, and a Bractea (Calyx of *Linn.*).—Fig. 2. Corolla, Stamens, and Pistils.—Fig. 3. Germen and Pistils.

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[*] From *laion*, Gr. *corn;* and *oloon*, Gr. *injury.* THORNTON. The seeds of *Lolium temulentum*, mixed in the bread, or fermented in ale, are said to cause intoxication in men, beasts, and birds, and to bring on fatal convulsions. *Eng. Fl.*

[†] See *Alopecurus pratensis*, fol. 45, note †.

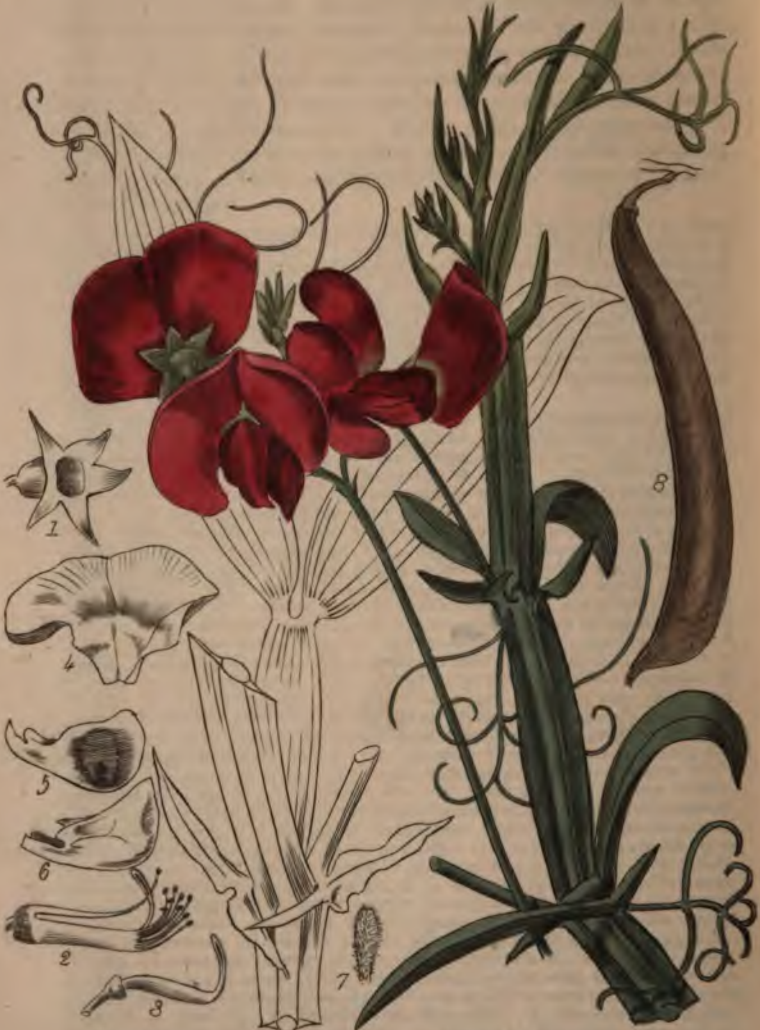
LOCALITIES.—In meadows, pastures, cultivated fields, road sides, waste places. &c. Common.

Perennial.—Flowers in June and July.

Root somewhat creeping, fibrous. *Culms* several, from 1 to 2 feet high, round, rigid, leafy, with purplish tumid joints, the lowermost of which are bent. *Leaves* strap-shaped, pointed, flat, dark green, smooth, striated. *Sheaths* somewhat compressed, of a light yellowish green, striated, smooth. *Stipula* short, projecting a little beyond the base of the leaf, membranaceous, entire, blunt. *Spike* 2-ranked, nearly upright, with a smooth common stalk or rachis. *Spikelets* numerous, alternate, upright, nearly sessile, either distant or crowded, many-flowered. *Outer palea* strap-spear-shaped, keeled, acute, generally with a short *awn*, just below the cloven tip, scarcely distinguishable, and frequently wanting. *Styles* very short. *Seed* strap-shaped.

Sir J. E. SMITH enumerates 3 varieties of this species; his variety β. (*L. tenue* of LINNÆUS,) he informs us, " is only a starved state of the plant, with 3 or 4 florets only, but still the spikelet extends beyond the calyx." I have cultivated this variety in the Oxford Garden for many years, and it has not changed its character, as given above; I have also found it to be only of annual duration. This circumstance seems almost sufficient to constitute a specific difference. Variety γ. of Sir J. SMITH has a branched, or compound, general spike; and variety δ. has a short, broad, egg-shaped, close one; these two varieties are occasionally found about Oxford. Mr. SINCLAIR notices a viviparous variety, and another with a double flower.

The Rye-grass appears to have been cultivated in this country previous to the year 1677, and is said, in Plot's Natural History of Oxfordshire, to have been first sown in the chiltern parts of that county, and to have been afterwards brought nearer Oxford by one Mr. EUSTACE, of Islip. " The natural habit of this Grass is to produce much and comparatively heavy seed; this property renders it not only an unprofitable impoverisher of the ground, compared with Cock's-foot (*Dactylis glomerata*, t. 108.) and other species, but also a troublesome weed in the wheat crop when that follows it in rotation. The produce is chiefly in the Spring, for the Midsummer and aftermath crop of herbage is always deficient. On the other hand, Rye-grass is valuable for Spring produce, its seed vegetates in a superior manner, is easily collected, and is less expensive at first. If the produce and nutritive powers of Rye grass be compared with those of Cock's-foot Grass, it will be found inferior in the proportion of 18 to 8 nearly; to Meadow Foxtail (*Alopecurus pratensis*, t. 45.) in the proportion of 12 to 5; and to the Meadow Fescue (*Festuca pratensis*) in the proportion of 17 to 5. In the comparison from which the above estimates were made, the crops at the time of perfecting the seed were omitted for the sake of comparison. In the alternate husbandry, Rye-grass possesses the valuable property of arriving soon at perfection from seed. The Meadow Foxtail, which is greatly superior to Rye-grass in early growth and weight of produce, is defective in its seed, and, like the Meadow Fescue, does not attain perfection in one season. The objection to Rye-grass in the alternate husbandry, may be greatly removed by combining with it a portion of Cock's-foot, Timothy (*Phleum pratense*, t. 68), Meadow Fescue, and Meadow Foxtail Grasses. The aftermath produce would be found double in quantity to that of Rye-grass and Clover alone; and should it happen, on any occasion, to be desirable to continue the ley more than one year, the pasture would improve instead of diminish in the produce of pasturage. Another advantage is the superior quantity of vegetable matter which this mixture of different grasses affords to the soil when ploughed in. Among the numerous varieties of Rye-grass (of which a Mr. WHITWORTH had, in 1823, collected as many as 60), the following are the most interesting to the Agriculturist. 1. Common Rye-grass; this is used when only one year's ley is required or praticed. 2. Broad-spiked Rye-grass. 3. PACEY's Rye-grass; this is a valuable variety on most soils. 4. RUSSELL's Rye-grass; this will be found by far the most valuable variety in all deep soils of the best quality for permanent pasture. 5. RUCK's. 6. WHITWORTH's; this and PACEY's are well adapted for high wold lands. 7. STACKNEY's; this approaches near to that of the RUSSELL Rye-grass.—The usual quantity of Rye-grass seed sown per the alternate husbandry, is 2 pecks with 14 pounds of clover; a quantity k the surface with plants, and consequently a large space of the pied, by the numerous vacancies between them." SINCLAIR, gricul. and Horticul. Knowl. p. 305.



LÁTHYRUS LATIFÓLIUS:.. *EVERLASTING PEA* ♃

Pub^{d} by W. Baxter Botanic Garden. Oxford 1835.

C.M.B.

LA′THYRUS[*].

Linnean Class and Order. DIADE′LPHIA[†], DECA′NDRIA.

Natural Order. LEGUMINO′SÆ, Juss. Gen. Pl. p. 345.—Sm. Gram. of Bot. p. 174.—Lindl. Syn. p. 75; Introd. to Nat. Syst. p. 87.--Rich. by Macgilliv. p. 532.—Sm. Engl. Fl. v. iii. p. 259.—Loud. Hort. Brit. p. 509.—PAPILIONA′CEÆ[‡] of Linnæus.—ROSALES, subtype VICIDÆ, Burn. Outl. of Bot. pp. 614 & 661.

GEN. CHAR. *Calyx* (fig. 1.) inferior, cup-shaped, unequal, of 1 sepal, with 5 spear-shaped segments, the 2 upper ones shortest, the lower one longest. *Corolla* butterfly-shaped, of 5 petals; Standard (fig. 4.) largest, inversely heart-shaped, reflexed at the sides; Wings (fig. 5.) oblong, blunt, somewhat curved upwards, approaching each other; Keel (fig. 6.) rounded, of 2 united petals, with separate claws. *Filaments* (fig. 2.) 10, 9 united into a compressed tube, open at the upper edge; the tenth hair-like, separate. *Anthers* small, roundish. *Germen* (fig. 3.) oblong, compressed. *Style* (see fig. 3.) ascending, flattened vertically, dilated upwards, acute at the end. *Stigma* (fig. 7.) extending from the middle of the style to the end, downy along the fore part. *Legume* or *pod* long, either cylindrical or compressed, pointed, of 1 cell, and 2 valves. *Seeds* several, roundish, or angular.

Distinguished from other genera, in the same class and order, by the *style* being flat, dilated at the end, and downy or pubescent in front.

Seven species British.

LA′THYRUS LATIFO′LIUS, Broad-leaved Everlasting Pea.

SPEC. CHAR. Peduncles many-flowered. Tendrils branched, each bearing two elliptical mucronated leaflets. Stem winged.

Fig. 1. Calyx.—Fig. 2. Stamens, Style, and Stigma.—Fig. 3. Germen, Style, and Stigma.—Fig. 4. The Vexillum or Standard.—Fig. 5. One of the Alæ or Wings.—Fig. 6. The Carina or Keel.—Fig. 7. The flat, downy Stigma, a little magnified.—Fig. 8. A Legume of *Láthyrus sylvestris*.

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[*] From *Lathurus* (Gr.) of THEOPHRASTUS, which is said to be from *la* (Gr.), augmentative, and *thouros* (Gr.), any thing exciting; in reference to the qualities of the seeds. Mr. DON.

[†] See *Spártium scopárium*. fol. 77, note †.

[‡] From *papilio*, a *butterfly*. The flowers in this order are irregular and spreading, and bear some resemblance to a butterfly expanding its wings for flight. Miss KENT, in her elegant and pleasing work, "Flora Domestica," speaking of a white variety of the Sweet Pea, *Láthyrus odoratus*, says, the flowers "are justly termed Papilionaceous, for they do indeed look like butterflies turned to flowers, and we almost expect to see them start from their stalks as we look at them; they seem," indeed, "only lingering to sip their own honey."

The various petals which compose this kind of flower are 5 in number, and are distinguished by appropriate names. The uppermost (fig. 4.) which is upright, and more expanded than the rest, is named the *vexillum* or *standard;* the two side ones (fig. 5.), which are at right angles with the vexillum, and parallel with each other, are called *alæ* or *wings;* and the two lower ones (fig. 6.), which are shaped like the alæ, and parallel with them, (and which often cohere by the lower margins so as to become, as it were, but one petal,) form the *carina* or *keel*, which encloses the internal organs.—In the genus *Trifolium* all the petals are sometimes united into one at the lower part.

Engl. Bot. t. 1108.—Linn. Sp. Pl. p. 1033.—Huds. Fl. Angl. (2nd ed.) p. 316.—Sm. Fl. Brit. v. ii. p. 766. Engl. Fl. v. iii. p. 277.—With. (7th ed.) v. iii. p. 840.—Gray's Nat. Arr. v. ii. p. 611.—Lindl. Syn. p. 85.—Hook. Brit. Fl. p. 322.—Mart. Fl. Rust. t. 8.—Abbot's Fl. Bedf. p. 156.—Relh. Fl. Cantab. (3rd ed.) p. 292.—Hook. Fl. Scot p. 214.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 332.—Walk. Fl. of Oxf. p. 208.—Bab. Fl. Bath. p. 14.—*Láthyrus májor latifólius*, Ray's Syn. p. 319.—Johnson's Gerarde, p. 1229.

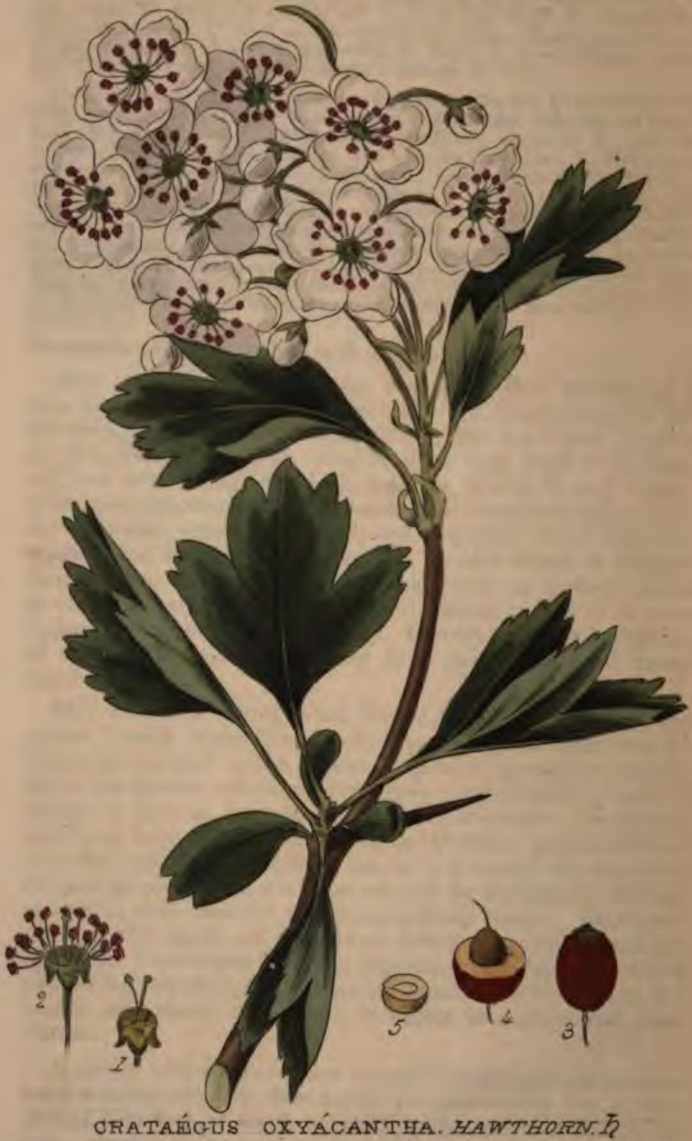
Localities.—In woods and hedges. Very rare.—*Berks*; In Tubney Wood, about six miles from Oxford: Miss Hoskins.—*Bedfordsh.* Hawnes and Bromham: Rev. C. Abbot.—*Cambridgesh.* Borley Wood, on the S. W. side; In the woody part of the Devil's Ditch, near Canvass Hall: Rev. R. Relhan.—*Cornwall;* Cliff near Fowey: Edw. Duke, Esq.—*Hampsh.* On Sandown Beach, Isle of Wight: Dr. Pulteney.—*Kent;* In a hedge at Copton; and by the road-side near Boughton-street, near Feversham: Mr. E. Jacob.—*Somersetshire;* At Charlcombe and Inglishcombe, and in Claverton, Warley, Wolley, and Smallcombe Woods: Rev. C. C. Babington.—*Worcestersh.* In Severn Stoke Copse: Mr. Ballard.—WALES. *Carnarvonsh.* Near Gyffen Mill, about half a mile from Conway: Bingley.—SCOTLAND. Among the debris of Salisbury Craigs: Miss Boswell. Woods near Kirkcudbright: Mr. Maughan.

Perennial.—Flowers in July and August.

Root much branched, but not creeping. *Herb* smooth, of a somewhat glaucous hue. *Stems* several, thick, broadly winged, and climbing, by means of tendrils, to the height of 6 or 8 feet. *Leaflets* in pairs, broadly elliptical, rolled in at the edge, blunt at the summit, but terminating in a little point or bristle, 3- or 5-ribbed, reticulated with veins. *Tendrils* generally in 5 branches, terminating the leaf-stalks, which are winged, and furnished at their base with a pair of half-halbert-shaped *stipulæ*. *Flowers* from 5 to 10 together, on long axillary peduncles, each flower on a short partial flower-stalk (pedicel), with a small awl-shaped *bractea* at its base. Lower teeth of the *Calyx* elongated. *Corolla* large and handsome, of a fine rose-colour. *Legume* long, compressed, and rather narrow.

This species is distinguished from *Láthyrus sylvéstris* by the greater breadth of the leaves, (which are always broader than the winged stem,) and by the greater abundance as well as superior size of the flowers, which are very shewy; and frequently begin to expand as early as June, and continue, in succession, through the months of July, August, September, and October. On this account it is often cultivated in gardens, but, as it is a large and somewhat rampant growing plant, it is better adapted for shrubberies, arbours, and trellis work, than for the common flower border. Bees resort much to this plant, and the flowers furnish them with abundance of honey. Professor Martyn suggests, that the prodigious crop yielded by this plant, and the lasting nature of its roots, even in a barren soil, should render it a fit object for agricultural experiment.

A variety with a white flower is sometimes met with in gardens, but it is rather rare. Mr. Don notices a curious variety (*var. β, monstrósus*, Gen Syst. of Gard. and Bot.), with a calyx of 5 linear sepals; abortive petals and stamens; and foliaceous legumes, destitute of seeds. Neither of these varieties have been found wild in England.



CRATAÉGUS OXYÁCANTHA. *HAWTHORN.* ♄

I.R. Del. *Pub^d by W. Baxter Botanic Garden Oxford 1834.*

CRATÆ'GUS*.

Linnean Class and Order. Icosa'ndria†, Pentagy'nia‡.

Natural Order. Poma'ceæ, Lindl. in Tr. of Linn. Soc. v. xiii. p. 88; Syn. p. 103; Introd. to Nat. Syst. of Bot. p. 83.—Rosa'ceæ, tribe, Poma'ceæ, Juss. Gen. Pl. p. 334.—Sm. Gram. of Bot. pp. 171 & 172.—Rich. by Macgilliv. pp. 528 & 530.—Loud. Hort. Brit. pp. 512 & 513.—Rosa'les, subt. Pyridæ, Burnett's Outl. of Bot. pp. 614 & 695.

Gen. Char. *Calyx* (fig. 1.) superior, of 1 sepal, in 5 pointed segments, permanent. *Corolla* of 5 roundish, concave petals, attached to the rim of the calyx. *Filaments* (fig. 2.) about 20, awl-shaped, incurved, fixed to the rim of the calyx within the petals. *Authers* roundish, 2-lobed. *Germen* inferior, oval or round. *Styles* (fig. 1.) from 2 to 5, rarely 1 only, thread-shaped, upright. *Stigmas* knobbed. *Fruit* (figs. 3 & 4.) oval or round, concealing the upper end of the cells, which are bony, and do not burst except in germination. *Seeds* (see fig. 5.) 2 in each cell, upright, inversely egg-shaped, blunt, pointed at the base where they are attached.

Distinguished from other genera, in the same class and order, by the urceolate (pitcher-shaped), 5-cleft *calyx;* orbicular *petals; ovarium* of from 2 to 5 cells; smooth *styles*; and fleshy, egg-shaped, or round *fruit,* closed by the calycine teeth or the thickened disk, concealing the upper end of the bony *cells.*

One species British.

CRATÆ'GUS OXYACA'NTHA. Hawthorn§. White-thorn. May.

Spec. Char. Branches thorny. Leaves smooth, 3- or 5-lobed, serrated. Flowers corymbose. Styles 1 or 2.

Linn. Sp. Pl. p. 683.—Huds. Fl. Angl. (2nd ed.) p. 214.—With. (7th ed.) v. iii. p. 596.—Lindl. Syn. p. 104.—Hook. Br. Fl. p. 221.—Hunt. Evelyn's Silva, p. 184.—Lightf. Fl. Scot. v. i. p. 255.—Hook. Fl. Scot. p. 151.—Grev. Fl. Edin. p. 109.—Fl. Devon. pp. 82 & 170.—Loud. Encyl. of Gard. p. 1145, Paragr. 1935.—Baxt. Lib. of Agricul. and Horticul. Knowl. p. 574.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 600.—Curt. Brit. Entomol. v. i. t. 31.—Bab. Fl. Bath. p. 16.—Mack. Cat. of Pl. of Irel. p. 48.—*Cratægus monogyna,* Sibth. Fl. Oxon. p. 156.—Abbot's Fl. Bedf. p. 108.—Purt. Midl. Fl. v. i. p. 235.—*Mespilus oxyacantha,* Eng. Bot. t. 2504.—Sm. Fl. Brit. v. ii. p. 529. Engl. Fl. v. ii. p. 359.—Relh. Fl. Cantab. (3rd ed.) p. 197.—Johnston's Fl. of Berw. v. i. p. 109.—Walk. Fl. of Oxf. p. 135.—*Mespilus monogyna,* and *M. digyna,* Gray's Nat. Arr. v. ii. p. 565.—*Mespilus Apii folio sylvestris spinosa, sive oxyacantha,* Ray's Syn. p. 453.—*Oxyacanthus,* Johnson's Gerarde, p. 1327.

Localities.—In woods, copses, hedges, &c. Everywhere.

Shrub or Tree.—Flowers in May and June.

From 5 or 6 to 20 or 30 feet high, with smooth bark, and hard wood. *Branches* smooth, thorny; thorns lateral, awl-shaped,

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Fig. 1. Calyx and Pistils.—Fig. 2. Calyx, Stamens, and Pistil.—Fig 3. A Berry.—Fig. 4. The same, with the upper half of the fleshy part or sarcocarp removed, shewing the putamen or endocarp (bony cell) with the style attached to its summit.—Fig. 5. A transverse section of the Endocarp, shewing the seed within it.

* From *cratos,* Gr. *strength;* in allusion to the extreme hardness of the wood. Hooker.

† See *Prúnus cérasus,* folio 100. ‡ See *Py'rus tormindlis,* folio 111.

§ The Hawthorn is the badge of the Highland clan Ogilvie.

sharp. *Leaves* alternate, deciduous, on longish, slender footstalks, smooth, or sometimes slightly hairy, deep green, glossy, tapering at the base; more or less 3-lobed, or 5-lobed, cut and serrated, wedge-shaped or rounded. *Stipulas* in pairs, crescent-shaped, cut, deciduous, varying much in size. The *Flowers* are sweet scented, and are produced in terminal corymbs; they are generally white, but sometimes they are pink or almost scarlet. The *Anthers* are pink, changing to black. The *Styles* vary in number, from 1 to 2, and sometimes 3, in different flowers of the same bunch. The *Fruit* is mealy, insipid, mostly of a dark red colour when ripe, but sometimes yellow; its cells as many as the styles, furrowed externally, and very hard.

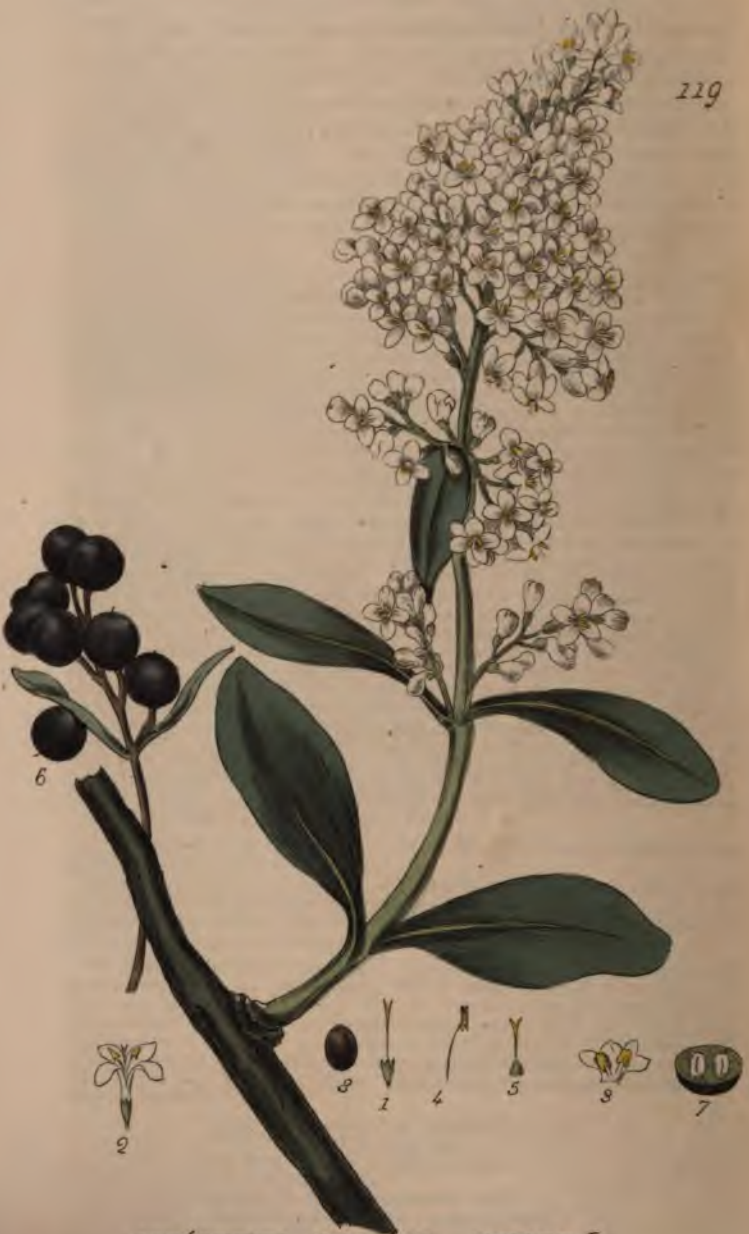
"Few of our native plants," says Dr. Hooker, "present a more beautiful sight than a well-grown bush of Hawthorn, with its dense masses of white and fragrant flowers, backed by the shining dark green leaves"—It is a most valuable plant for forming impenetrable, close, durable, and easily raised fences, called quickset hedges, and it bears clipping to any extent. The timber of such plants as grow singly, and attain a tolerable size, is valued by the Millwright and Turner, and the roots by the Cabinet-maker.—Sang observes, that the timber is often spoiled through inattention after cutting; if it be allowed to lie in intire logs or trunks, it soon heats and becomes quite brittle and worthless; it therefore ought to be cut up instantly into planks and laid to dry. A decoction of the bark yields a yellow dye, and with copperas is used to dye black. The *fruit* or *haws* afford abundant food for small birds during hard Winters, when little else is to be obtained. There are several varieties of this plant cultivated in gardens, as the large scarlet hawthorn, the yellow-berried hawthorn, the maple-leaved, and the double blossomed; but perhaps the most remarkable variety is the Glastonbury thorn, which frequently blows twice a year, in May, and again in December or January. A plant of this variety, which is growing in the Oxford Garden, has had some fully expanded blossoms upon it nearly the whole of this month (December), and there are several upon it now, (Dec. 25, 1834), fully expanded, and a number of flower-buds nearly ready to open. There is a tradition of this variety having sprung from the staff of Joseph of Arimathea, who, with his missionary companions, resolved there (at Glastonbury) to found the first Christian Church in this land, stuck it into the ground, when it quickly put forth branches and blossoms. A more particular account of this remarkable variety of the Hawthorn may be seen in Withering's *Bot. Arr.* (7th ed); *The Avalonian Guide*, (4th ed.) p. 50; and Loudon's *Mag. of Nat. Hist.* v. vii. p. 552.—The largest and handsomest tree of the common Hawthorn I have seen, is growing in the middle of a field about 3 miles from Rugby in Warwickshire, on the left hand side of the road going from Brownsover to Coton House, the seat of —— Grimes, Esq.

A variety with *white* fruit is mentioned by Dr. Withering, as having been found near Bampton in Oxfordshire.

Æcidium laceratum, of Grev. Scot. Crypt. Fl. t. 209, and Baxt. Stirp. Crypt. Oxon. No. 45; and *Erineum clandestinum*, Grev. Scot. Crypt. Fl. t. 141. f. 2., are parasitical on the leaves of the Hawthorn. The *Æcidium* is also frequent on the fruit as well as on the leaves.

When old, the Hawthorn frequently becomes nearly covered with mosses and lichens, especially the grey lichens, *Usnea hirta*, *Evernia prunastri*, and *Ramalina farinacea*. "They," says Dr. Johnston, in his very interesting Flora of Berwick, "who have wandered across moors, or in our retired dells, will often have noticed—'tis a common object—a thorn with few leaves and many a withered branch, old certainly, yet firm and unalterable for many a year, hung in profusion with these lichens. Such a thorn Wordsworth has described with his usual simplicity:

'Like rock or stone, it is o'ergrown
  With lichens to the very top,
And hung with heavy tufts of moss,
  A melancholy crop:
Up from the earth these mosses creep,
  And this poor thorn they clasp it round
So close, you'd say that they were bent,
With plain and manifest intent,
  To drag it to the ground.'"



LIGÚSTRUM VULGÁRE. *PRIVET.* ♄

I. R. Del. *Pubd. by W. Baxter, Botanic Garden, Oxford. 1835.* *C. M. Sc.*

LIGU'STRUM *.

Linnean Class and Order. DIA'NDRIA †, MONOGY'NIA.

Natural Order. OLEA'CEÆ, Lindl. Introd. to the Nat. Syst. of Bot. p. 224.—OLEI'NEÆ, *Hoffmannsegg* and *Link.*—Lindl. Syn. p. 171.—OLE'INÆ, Loud. Hort. Brit. p. 524.—JASMINEÆ, Juss. Gen. Pl. p. 104.—Sm. Gram. of Bot. p. 97.—Rich. by Macgilliv. p. 437.—SAPIA'RIÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, very small, tubular, with 4 upright teeth. *Corolla* (figs. 2 & 3.) of 1 petal, funnel-shaped, tube cylindrical, longer than the calyx; limb with 4 deep, egg-shaped, spreading segments; valvular in the bud. *Filaments* (figs. 2 & 3.) 2, opposite, alternate with the segments, in the mouth of the tube. *Anthers* upright, nearly as long as the corolla. *Germen* (fig. 5.) superior, oval. *Style* (fig. 5.) short. *Stigma* (fig. 5.) thick, cloven. *Berry* (fig. 6.) of 2 cells. *Seeds* (fig. 8.) 2 in each cell, convex on one side, angular on the other.

Distinguished from other genera, in the same class and order, by an inferior, monopetalous, regular, 4-cleft *corolla*, and a *berry* with 4 seeds.

One species British.

LIGU'STRUM VULGA'RE. Common Privet, Print, or Primprint.

SPEC. CHAR. Leaves elliptic-spear-shaped, blunt, with a small point. Panicle compact.

Engl. Bot. t. 764.—Curt. Fl. Lond. t. 300.—Linn. Sp. Pl. p. 10.—Huds. Fl. Angl. (2nd ed.) p. 3.—Sm. Fl. Brit. v. i. p. 12. Engl. Fl. v. i. p. 13.—With. (7th ed.) v. ii. p. 12.—Gray's Nat. Arr. v. ii. p. 391.— Lindl. Syn. p. 171.—Hook. Brit. Fl. p. 3.—Lightf. Fl. Scot. v. i. p. 72.—Sibth. Fl. Oxon. p. 4.—Abbot's Fl. Bedf. p. 2.—Purt. Midl. Fl. v. i. p. 50; and v. iii. p. 335.—Relh. Fl. Cant. (3rd ed.) p. 6.—Hook. Fl. Scot. p. 3.—Grev. Fl. Edin. p. 2.—Fl. Devon. pp. 1. and 153.—Johnston's Fl. Berw. v. i. p. 5.—Walk. Fl. of Oxf. p. 3.—Curt. Brit. Entomol. v. ix. t. 409.—Mack. Catal. of Pl. of Irel. p. 8.—Bab. Fl. Bath. p. 30. —*Ligustrum*, Ray's Syn. p. 465.—Johnson's Gerarde, p. 1394.

LOCALITIES.—In hedges, woods, and thickets, especially on a gravelly or chalky soil. Not uncommon in most parts of England; more rare in Scotland.—It is abundant in the neighbourhood of Oxford; and also about Rugby in Warwickshire.

A Shrub.—Flowers in May and June.

This grows to the height of 6 or 8 feet; it is smooth, and bitter, much branched, and the bark is of a greenish-ash colour, irregularly sprinkled with numerous prominent points. *Branches* straight, filled with pith; wood hard. *Buds* axillary, egg-shaped, of a few opposite scales. *Leaves* opposite, on very short stalks, elliptic-

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Fig. 1. Calyx and Pistil.—Fig. 2. Calyx, Corolla, Stamens, and Pistil.—Fig. 3. Corolla cut open virtically.—Fig. 4. A Stamen.—Fig. 5. Germen, Style, and Stigma.—Fig. 6. A Berry.—Fig. 7. A transverse section of the same.—Fig. 8. A Seed.

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* From *ligo*, to *bind;* on account of the use sometimes made of its long and pliant branches. Dr. HOOKER.

† See *Veronica chamædrys*, folio 50, note †.

spear-shaped, quite entire, somewhat resembling those of the myrtle, but of a duller hue; almost evergreen in mild seasons. *Panicles* many-flowered, dense, thrice-compound, and somewhat pyramidal. *Flowers* strongly scented, white; changing to a reddish brown colour before they fall; segments thick and fleshy. *Stamens* generally 2, but sometimes 3 or 4, in each flower. *Berries* globular, purplish black, nauseous, and very bitter.

The Privet is a very useful and ornamental shrub, and is easily propagated, either by cuttings, layers, or suckers, but the strongest and best plants are those raised from seeds. Its chief use is to form hedges, as it bears clipping well, and is not liable to be disfigured by insects, and having only fibrous roots, it robs the ground less than almost any other shrub. It will grow under the drip of trees, and is one of the few plants that will bear the smoky atmosphere of towns. According to LINNÆUS, cows, sheep, and goats eat the Privet; but horses refuse it. *Sphinx Ligustri*, or Privet Hawk Moth, and *Phalæna Syringaria*, feed on it in their catterpillar state; and the *Meloe vesicatorius*, Cantharides or Blister Beetle, is said to have been found on it. The leaves are bitter and slightly astringent. The wood is very hard, and fit for the Turner. The berries, which are filled with a dry, spongy, violet pulp, (from which, according to SCOPOLI, a rose-coloured pigment may be prepared,) continue on the shrub till Spring, and in times of scarcity are eaten by different sorts of birds, particularly the bullfinch. With the addition of alum, they dye wool and silk of a good and durable green, but for this purpose they must be gathered as soon as they are ripe.

A variety of this shrub, with yellow berries, is frequently cultivated in gardens, as is also a variety with variegated leaves.

The *Natural Order* OLEA'CEÆ, to which the *Privet* belongs, is composed of *trees* or *shrubs*, with opposite, simple, sometimes pinnated, *leaves*. The *flowers* are produced in terminal or axillary racemes or panicles, and are usually hermaphrodite, but sometimes diœcious. The *calyx* is inferior, monosepalous, divided, and permanent. The *corolla* is hypogonous, monopetalous, 4-cleft, occasionally of 4 petals, connected in pairs by the intervention of the filaments, sometimes without petals; æstivation somewhat valvate. The *stamens* are 2 in number, and are alternate with the segments of the corolla or with the petals. The *anthers* are 2-celled, and open longitudinally. The *ovarium* is simple, without any hypogynous disk, it is 2-celled; the cells are 2-seeded; the *ovules* pendulous and collateral; the *style* one or none; and the *stigma* bifid or undivided. The *fruit* is drupaceous, berried, or capsular, and is often by abortion 1-seeded. The *seeds* have a dense, fleshy, abundant albumen; the *embryo* is straight; the *cotyledons* foliaceous, partly asunder; the *radicle* is superior; and the *plumula* inconspicuous. See Lindl. Syn. p. 171.

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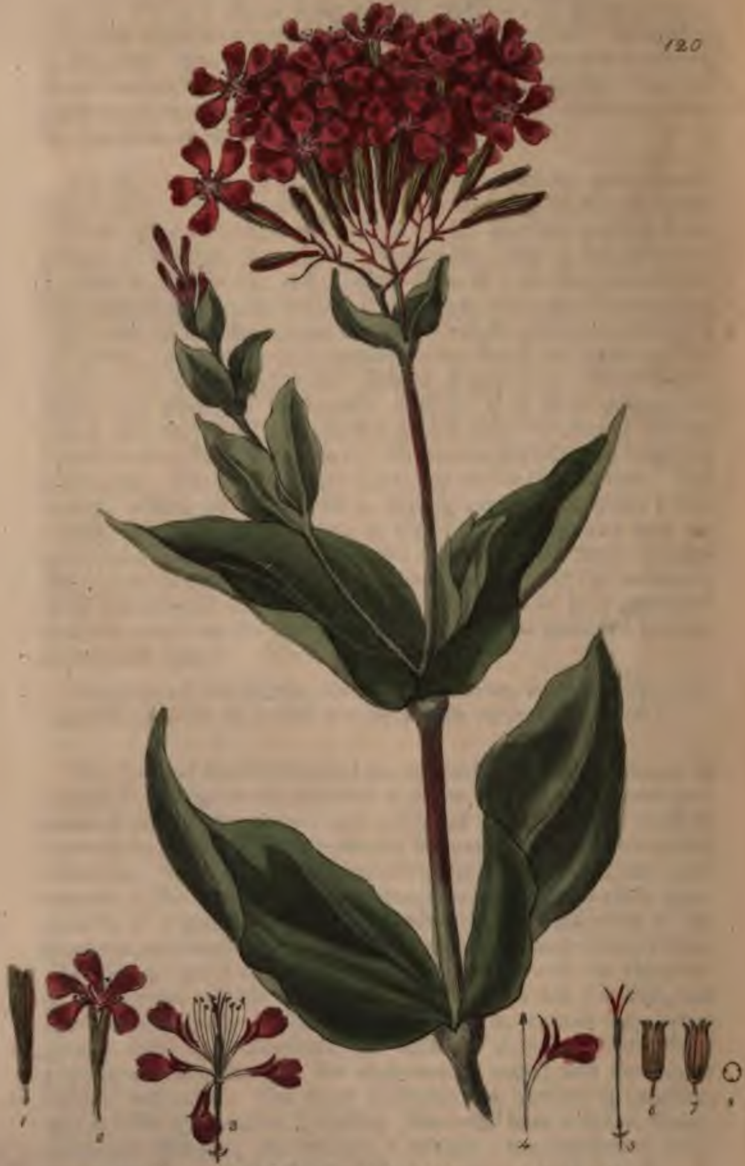

SILÉNE ARMÉRIA. *LOBEL'S CATCHFLY.* ☉.

Russell del.

Pub.d by W. Baxter, Botanic Garden, Oxford. 1833.

SILE'NE*.

Linnean Class and Order. DECA'NDRIA †, TRIGY'NIA.

Natural Order. CARYOPHY'LLEÆ, *Linn.*—Juss. Gen. Pl. p. 299.—Sm. Gram. of Bot. p. 159.—Lindl. Syn. p. 43; Introd. to Nat. Syst. p. 156.—Rich. by Macgilliv. p. 507.—Loud. Hort. Brit. p. 501.—ROSALES, sect. DIANTHINÆ, Burn. Outl. of Bot. pp. 614 & 805.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, tubular, angular or furrowed, often ventricose, 5-toothed, naked, permanent. *Corolla* (figs. 2 & 3.) of 5 petals, claws narrow, as long as the calyx, bordered, dilated upwards, attached to the *receptacle* (see fig. 3.), which is cylindrical, sometimes much elongated and columnar; limb flat, involute in the bud, blunt, either undivided or cloven, either naked at the base, or furnished with 2, simple or divided, distinct or combined, upright scales (fig. 4.), which form a crown at the mouth of the corolla. *Filaments* (figs. 3 & 4.) 10, awl-shaped, 5 alternate ones attached to the petals, and rather later than the rest. *Anthers* (see fig. 4.) oblong, or roundish. *Germen* (see fig. 5.) cylindrical. *Styles* (see fig. 5.) 3, short, upright. *Stigmas* oblong, oblique, downy along the upper or inner side. *Capsule* (fig. 6.) covered by the calyx, egg-oblong, often stalked, imperfectly 3-celled (see fig. 8.) opening at the top by 6 teeth. *Seeds* numerous, kidney-shaped, stalked, roughish, attached to the central column (see fig. 7.).

The *capsule* of 3 incomplete cells; the clawed *petals;* and monosepalous *calyx;* will distinguish this from other genera in the same class and order.

Eleven species British.

SILE'NE ARME'RIA. Common Catchfly. Lobel's Catchfly. Limewort.

SPEC. CHAR. Panicles forked, level-topped, many-flowered. Petals notched, each with a double, awl-shaped scale. Calyx club-shaped, and, as well as the leaves, smooth. Leaves egg-spear-shaped. Stem viscid. Capsule not longer than its stalk.

Eng. Bot. t. 1398.—Linn. Sp. Pl. p. 601.—Huds. Fl. Angl. (2nd ed.) p. 189.—Sm. Fl. Brit. v. ii. p. 471. Engl. Fl. v. ii. p. 296.—With. (7th ed.) v. ii. p. 545.—Lindl. Syn. p. 46.—Hook. Brit. Fl. p. 203.—Loud. Encycl. of Gard. p. 735.—Don's Gen. Syst. of Gard. & Bot. v. i. p. 414.—*Siléne latifólia*, Gray's Nat. Arr. v. ii. p. 647.—*Lychnis viscosa purpurea latifolia lævis*, DILLENIUS, in Ray's Syn. p. 341.—*Muscipula Lobelii*, Johnson's Gerarde, p. 601.

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. The same, with the Petals separated to show the Stamens, &c.—Fig. 4. A separate Petal, with a Stamen attached to the base of its claw.—Fig. 5. Germen and Pistils, elevated on a cylindrical receptacle or stalk.—Fig. 6. Capsule —Fig. 7. A verticle section of the same, to show the central columnar Placenta or Receptacle of the Seeds.—Fig. 8. A transverse section of the same, shewing the 3 imperfect cells.

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* Said to be derived from *sialon*, Gr. *saliva*, in allusion to the viscid moisture on the stalks of many of the species, by which flies of the smaller kinds are entrapped; hence the English name of the genus, *Catchfly*. DON.

† See *Sapondria officindlis*, folio 37, note †.

Localities.—In corn-fields, on banks, or on old walls. Very rare. A doubtful native.—*Cheshire;* On the banks of the river, half a mile below Chester: Dr. Richardson, in Ray's Syn.—*Surrey;* In a corn-field at Weybridge, with *Silene anglica:* W. Borrer, Esq.

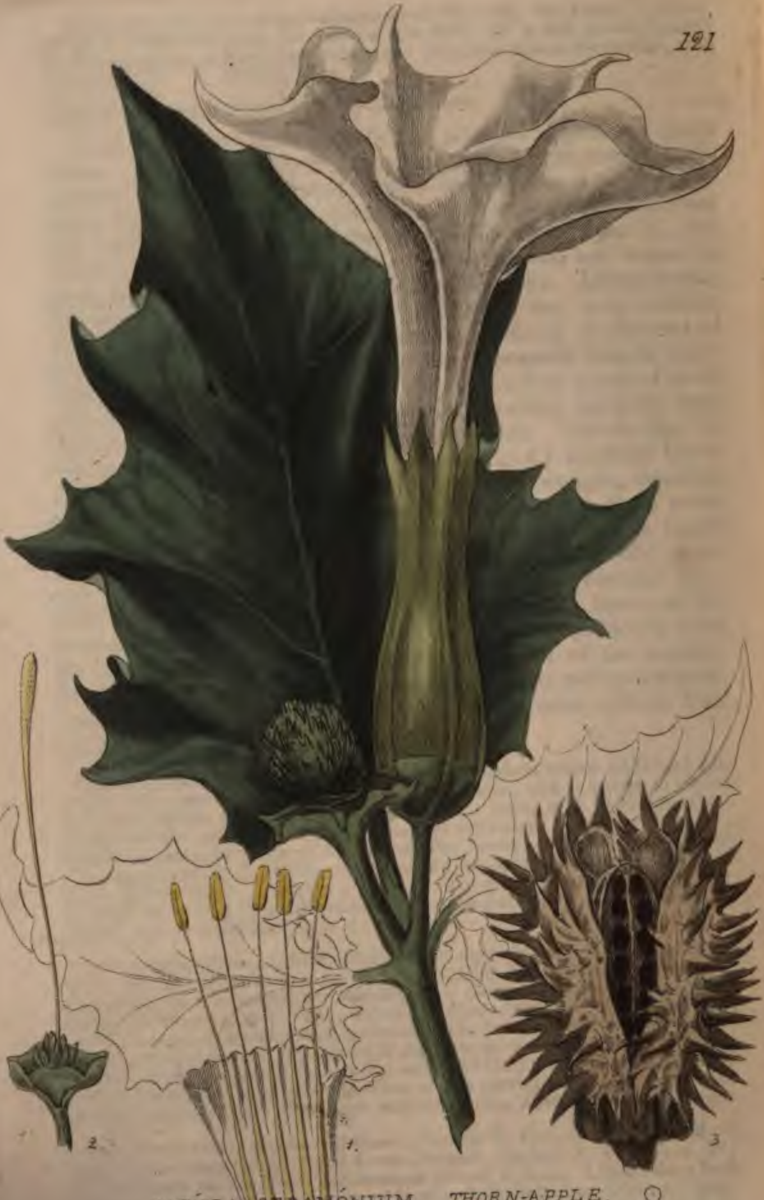
Annual—Flowers from June to September.

Root small, and tapering. Whole *plant* of a glaucous green colour. *Stem* from a foot to 18 inches high, upright, round, leafy, smooth, alternately branched; under each of the 2 or 3 upper joints is a broad, brownish coloured glutinous ring, which catches and imprisons small insects that happen to alight upon it; this viscidity is more or less common to all the species, and hence the genus has obtained the English name of Catchfly. *Leaves* sessile, opposite, egg-oblong, of a light glaucous green, very smooth. *Flowers* numerous, on very short stalks, produced at the end of the stem and branches, in upright, close, repeatedly forked, level-topped *panicles;* each subdivision accompanied by a pair of small pointed *bracteas. Calyx* (fig. 1.) tubular, swelling upwards, very smooth, often reddish, with 10 ribs and 5 teeth. *Corolla* (fig. 2.) rose-coloured, sometimes white. *Petals* (fig. 4.) inversely heart-shaped, always spreading, each with a pair of upright, tapering, pointed scales at the base of the limb (see fig. 4.); these scales were considered by *Linnæus* as *nectaries,* they constitute a crown at the mouth of the tube formed by the claws of the petals. *Capsule* (fig. 6.) slender, oblong, within the calyx, and elevated on a stalk (see fig. 5.), often more than its own length; hence, as Dr. Hooker observes, the lower part of the calyx is contracted, while the upper part is swollen by the enlargement of the capsule. *Seeds* very small, somewhat kidney-shaped, furrowed at the back, rough with elevated lines, which, on the 2 flat sides, radiate from the base or hilum.

This is a pretty species, and is very common in gardens, where it has been cultivated for a great length of time as a hardy annual, and is known to almost everybody by the name of *Lobel's Catchfly.* It grows wild in France, Germany, and Switzerland, but it can scarcely be considered a native of England; the circumstance, however, of its having been found naturalized in the places above mentioned by Dr. Richardson and Mr. Borrer, has obtained it a place in the British Floras. *Siléne* is a very extensive genus; Mr. Don, in his very excellent work, "A General System of Gardening and Botany," describes 256 species, natives of different parts of the globe.

One species, *Silene inflata,* which is not uncommon in cornfields, and on banks, &c. by road-sides in many parts of England, has been recommended for cultivation, as a substitute for *Asparagus* or *Green Peas,* the young shoots having the flavour of both. They should be gathered when about 2 inches long, and the more they are blanched the better. The leaves boiled have also somewhat the flavour of peas, and proved of great use to the inhabitants of Minorca in 1685, when a swarm of locusts had destroyed the harvest. Bryant, in his "Flora Dietetica," says, the cultivation of this species would well reward the gardener's trouble. See *With. Arr.* and *Don's Gen. Syst. of Gard. and Bot.*

Two minute fungi, *Æcidium Behenis,* Decand. Fl. Fr. v. vi. p. 94.; and Baxt. Stirp, Crypt. Oxon. N°. 90.; and *Uredo Behenis,* Decand. Fl. Fr. v. vi. p. 93.; are parasitical on the leaves and stems of *Silene inflata.* I found them both on this species of Silene, near the road leading from Bullington Green to Cheyney Lane, near Oxford, in August, 1827. I do not know that either of them had before been found in England.



DATÚRA STRAMÓNIUM. *THORN-APPLE.* ⊙

I. Russell del^{t} Pub^{d} by W. Baxter, Botanic Garden, Oxford 1836.

DATU'RA*.

Linnean Class and Order. PENTA'NDRIA†, MONOGY'NIA.

Natural Order. SOLA'NEÆ, Juss. Gen. Pl. p. 124.—Sm. Gram. of Bot. p. 101.—Lindl. Syn. p. 180; Introd. to Nat. Syst. of Bot. p. 231.—Rich. by Macgilliv. p. 435.—Loud. Hort. Brit. p. 527.—LURIDÆ of *Linnæus.*

GEN. CHAR. *Calyx* inferior, of 1 sepal, oblong, tubular, swelling, with 5 angles and 5 teeth, separating horizontally near the base, leaving a circular, reflexed, permanent portion below the germen. *Corolla* of 1 petal, funnel-shaped, regular; tube cylindrical, generally longer than the calyx; limb upright, but expanding, with 5 angles, 5 plaits, and 5 shallow, pointed, equal lobes. *Stamens* (fig. 1.) 5, equal, awl-shaped, as long as the tube, to which they are united for about half their length. *Anthers* heart-shaped-oblong, upright, compressed, blunt. *Germen* egg-shaped, 4-celled. *Style* (fig. 2.) central, thread-shaped, straight, upright, the length of the stamens. *Stigma* thick, blunt, of 2 oblique lobes, united above. *Capsule* (fig. 3.) nearly egg-shaped, often prickly, standing upon the permanent base of the calyx, of 2 half divided cells, and 4 valves; receptacles (placentæ) 2 to each cell, columnar, vertical, spongy, dotted, each attached, by a lateral process, to the principal transverse partition or dissepiment. *Seeds* numerous, kidney-shaped, dotted, covering the placentæ.

Distinguished from other genera, with a monopetalous, inferior corolla, in the same class and order, by a tubular, deciduous *calyx;* funnel-shaped, plaited *corolla;* and 2-celled, 4-valved *capsule.*

One species British.

DATU'RA STRAMO'NIUM. Common Thorn-apple.

SPEC. CHAR. Herbaceous; Leaves egg-shaped, smooth, lobed, or sinuated. Fruit egg-shaped, upright, spinous.

Engl. Bot. t. 1288.—Curt. Fl. Lond.—Linn. Sp. Pl. p. 255.—Huds. Fl. Angl. (2nd ed.) p. 92.—Woodv. Med. Bot. v. ii. p. 338. t. 124.—Sm. Fl. Brit. v. i. p. 254. Engl. Fl. v. i. p. 314.—With. (7th ed.) v. ii. p. 315.—Lindl. Syn. p. 181.—Hook. Brit. Fl. p. 93.—Purt. Midl. Fl. v. i. p. 127.—Relh. Fl. Cantab. (3rd ed.) p. 94.—Thornton's Family Herbal, p. 186.—Perry's Pl. Varv. Select. p. 21.—*Stramonium fœtidum,* Gray's Nat. Arr. v. ii. p. 330.—*Stramonium spinosum,* Johnson's Gerarde, p. 348.—*Solanum pomo spinosa oblongo, flore calathoide, Stramonium vulgò dictum,* Ray's Syn. p. 266.

LOCALITIES.—In waste ground, among rubbish, and on dunghills. Supposed to have originally escaped from gardens. Rare.—*Oxfordshire;* Place-Yard, Bicester; and Charlton on Otmoor: Mr. G. WOODWARD.—*Berks;* In a meadow near Reading: Mr. FARDON.—*Bucks;* On rubbish at Salt-Hill: Mr. GOTOBED.—*Cambridgesh.* Wesbeach: Mr. SKRIMSHIRE. In the Gravel-pits at Barnwell; supposed to be brought from the Botanic Garden: Rev. R. RELHAN.—*Cheshire;* Cross road between Chorley and Chelford: Mr. G. HOLME.—*Cumberland;* Wallow Crag, Keswick: Mr. HUTTON.—*Derbysh.* Derby, and Pinxton: Mr. PILKINGTON.—*Durham;* On Sunderland Ballast Hills: Mr. WINCH. Near Darlington: Mr. BACKHOUSE. Durham and Norton: J. HOG, Esq.—*Hampsh.*

Fig. 1. The 5 Stamens, attached to the inside of the tube of the corolla.—Fig. 2. The Pistil, with the remains of the calyx.—Fig. 3. The Capsule.

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* From its Arabic appellation *Tátórah* (FORSKAL.) In some parts of the East Indies too, it is called *Dâturo.* Dr. HOOKER.

† See *Anchusa sempervirens,* folio 48, note †.

At Ryde, Isle of Wight: Mr. S. Woods.—*Middlesex;* About London, common: L. W. Dillwyn, Esq.—*Norfolk;* By the road-side beyond Brooke, in the way from Norwick to Bungay: Dr. Smith.—*Suffolk;* On Fritton Heath, and hedges adjoining, very copiously: Mr. Woodward.—*Surrey;* About Battersea: Mr. W. Pamplin, jun.—*Warwicksh.* About Salford and Alcester: Mr. Purton. On a newly-formed bank of earth in the Saltisford Brick Yard, Warwick: Mr. W. G. Perry.—*Worcestersh.* On waste ground near the church at Little Malvern: Mr. E. Lees.—WALES. *Anglesey;* Produced abundantly on breaking up a piece of old ground in the demesne of Maes y Porth; which had not undergone any agricultural process for at least a century: Rev. H. Davies.—*Glamorgansh.* Not uncommon on dunghills about Swansea: L. W. Dillwyn, Esq.—IRELAND. Abundant about the river Lions: Dr. Wade.

Annual.—Flowers in July and August.

Root large, divided and fibrous. *Stem* from 1 to 3 feet high, smooth, much branched, forked, spreading, leafy. *Leaves* from the forks of the stem and branches, large, broad towards the base, pointed at the extremity, variously and sharply sinuated and toothed, of a dark green, on round shortish leafstalks. *Flowers* large, axillary, upright, white, sweet scented, on short upright peduncles. *Calyx* pale green. *Corolla* about 3 inches long, white, with a greenish, 5-angled tube. *Fruit* about the size of a walnut in its outer coat, very prickly. *Seeds* kidney-shaped, black. At night the leaves, particularly the upper ones, rise up and inclose the flowers.

We are informed by Gerarde, (1597,) that the Thorn-Apple was brought to England in seed from Constantinople by Lord Edward Zouch. Mr. Miller says, it was probably first introduced from Italy or Spain. It is occasionally found wild on dunghills, in cultivated ground, and amongst rubbish; on this account, Mr. Ray (1690), and Mr. Hudson (1762), placed it amongst the British Plants, regarding it at the same time as a doubtful native; and later writers on British Botany have followed their example. Kalm informs us, in his Travels into North America, that it grows about all the villages, and that this and the *Phytolacca* are the worst weeds there; and Mr. Curtis says, that in the earth brought with plants from various parts of that extensive country, we are sure to have the *Thorn-Apple* come up. Every part of the plant is a strong narcotic poison, producing intoxication, delirium, loss of memory, sometimes transitory and sometimes permanent, convulsions, &c. and death. Dr. Barton mentions the cases of two British soldiers, who eat it by mistake, for the *Chenopodium album, (White Goosefoot* or *Fat Hen,)* one became furious, and ran about like a madman, and the other died, with the symptoms of genuine tetanus. To counteract the effects of *Stramonium,* Read's pump should be used, or sulphate of zinc or copper taken till vomiting is excited. Vinegar is said to be a good antidote to the effects of this poison.

An ointment prepared from the leaves has been used as an application to external inflammations and burns; in the latter a remarkable instance is noticed by Gerarde, p. 349, Johnson's edition.—The Edinburgh College directs an extract to be prepared by evaporating the expressed juice of the leaves. This has been given with great advantage in convulsive affections and epilepsies. Out of 14 epileptic patients, 8 were entirely cured by it at Stockholm. The dose from 2 to 16 grains a day, (see Lond. Med. Journ. v. ii. p. 295). This plant has lately been in great repute, for its efficacy in alleviating and warding off fits of Spasmodic Asthma, being smoked like tobacco. " It is the root only, and the lower part of the stem, which seem to possess the antiasthmatic virtue; these should be cut into small pieces, and put into a common tobacco pipe, and the smoke must be swallowed together with the saliva produced by the smoke; after which the sufferer will, in a few minutes, be relieved from all the convulsive heaving, and probably drop into a comfortable sleep, from which he will awake refreshed; and in general perfectly recovered. He must avoid drinking with the pipe, but will find a dish of coffee afterwards highly refreshing." See Monthly Magaz. v. xxix. p. 409.

The Chinese are forbidden by law from putting this plant into fermented liquors, with a view to intoxicate. See Curt. Fl. Lond.; With. Bot. Arr.; Loud. Gard. Mag. v. ii. p. 337, &c.

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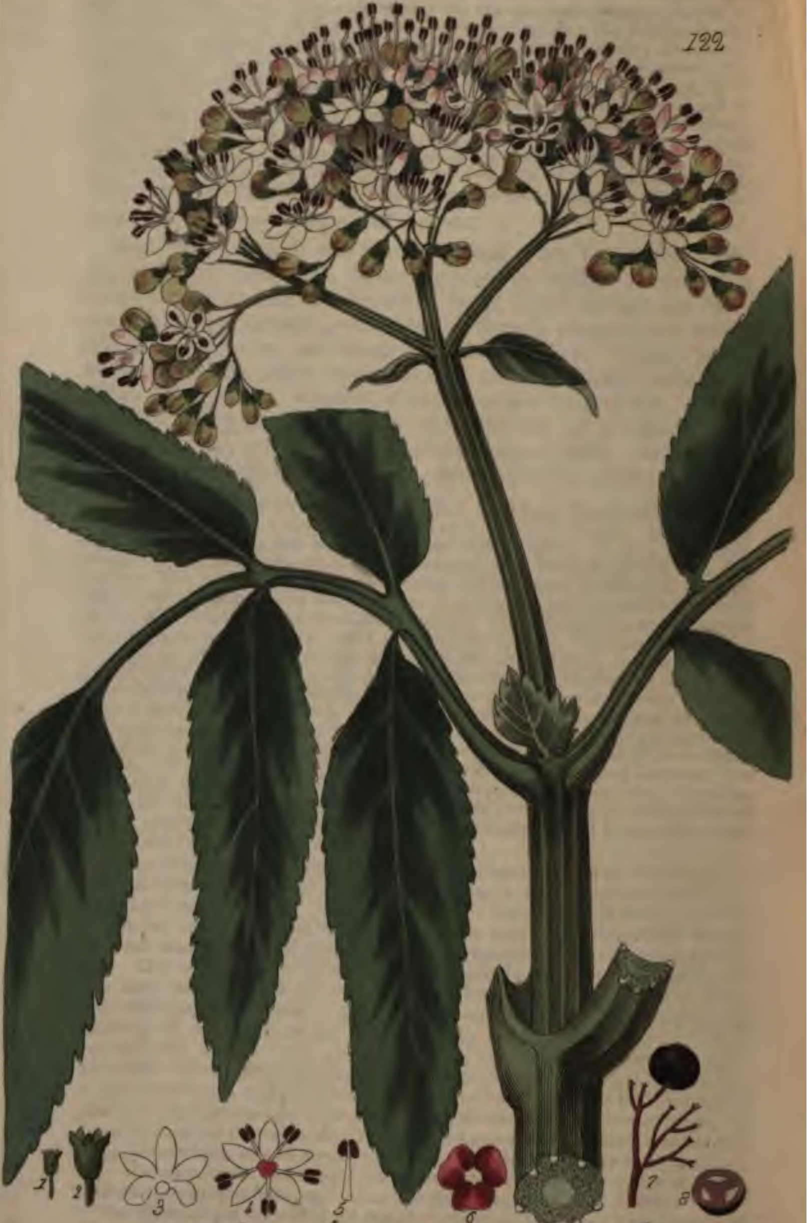

SAMBÚCUS EBULUS. *DWARF ELDER.* ♃

W.E.A. Sc. 1st Pub.d by W. Baxter Botanic Garden Oxford 1835 I.R. Del.

SAMBU'CUS*.

Linnean Class and Order. PEN'TA'NDRIA†, TRIGY'NIA.

Natural Order. CAPRIFOLIA'CEÆ; sect. SAMBUCI'NEÆ; *Decand.*—Lindl. Syn. p. 131; Introd. to Nat. Syst. of Bot. pp. 206 & 207.—Rich. by Macgilliv. p. 460.—Loud. Hort. Brit. p. 519.—CAPRIFOLIA; sect. 3, Juss. Gen. Pl. pp. 210 & 213.—Sm. Gram. of Bot. pp. 129 & 130.

GEN. CHAR. *Calyx* (figs. 1 & 2.) superior, of 1 sepal, very small, 5-cleft, permanent. *Corolla* (figs. 3 & 4.) of 1 petal, nearly wheel-shaped, but slightly concave, in 5 deep, blunt, reflexed segments. *Filaments* (figs. 4 & 5.) 5, awl-shaped, as long as the corolla, inserted into its base, alternate with the segments. *Anthers* roundish heart-shaped. *Germen* (see figs. 1 & 2.) inferior, egg-shaped, blunt. *Style* none. *Stigmas* (see figs. 4 & 6.) 3, blunt. *Berry* (figs. 7 & 8.) inferior, globular, of 1 cell, with 3 seeds. *Seeds* convex at the outside, angular inwards.

The superior, 5-cleft *corolla*, and 3-seeded *berry*, will distinguish this from other genera in the same class and order.

Two species British.

SAMBU'CUS E'BULUS. Dwarf Elder. Danewort‡. Wallwort or Walewort.

SPEC. CHAR. Cymes with three principal branches. Stipulas leafy. Stem herbaceous.

Eng. Bot. t. 475.—Curt. Fl. Lond. t. 213!—Linn. Sp. Pl. p. 385.—Huds. Fl. Angl. (2nd ed.) p. 130.—Sm. Fl. Brit. v. i. p. 336. Engl. Fl. v. ii. p. 108.—With. (7th ed.) v. ii. p. 400.—Lindl. Syn. p. 132.—Hook. Brit. Fl. p. 143.—Woodv. Med. Bot. Suppl. t. 260.—Lightf. Fl. Scot. v. i. p. 171.—Sibth. Fl. Ox. p. 104.—Abb. Fl. Bedf. p. 70.—Purt. Midl. Fl. v. i. p. 162. and v. iii. p. 349.—Relh. Fl. Cant. (3rd ed.) p. 129.—Thornton's Family Herbal, p. 327.—Hook. Fl. Scot. p. 96.—Grev. Fl. Edin. p. 72.—Fl. Devon. pp. 55 & 164.—Johnst. Fl. of Berw. v. ii. p. 278.—Walk. Fl. of Oxf. p. 86.—Perry's Pl. Varvic. Selectæ, p. 26.—Bab. Fl. Bath. p. 22.—Mack. Catal. Pl. of Irel. p. 31.—*Sambúcus humilis*, Gray's Nat. Arr. v. ii. p. 489.—*Sambucus humilis seu Ebulus*, Ray's Syn. p. 461.—***Ebulus, sive Sambucus humilis***, Johnson's Gerarde, p. 1426.

LOCALITIES.—In waste ground, way-sides, and about hedges. Not common. *Oxfordsh.* In the Parks behind Wadham College, (1794). In the same place, 1834: W. B. Near Ensham. Outside of Tackley Park. Miss ARMETRIDING. Between Tackley and Whitehill: G. COLES, Esq. Tusmore Park, plentifully. G. WOODWARD, Esq.—*Bedfordsh.* Hedges, common.—*Cambridgesh.* Madingly, near the well; near the road to Hinton; Oakington; Barrington; Eversden, &c.—*Cheshire;* In Rainow, road-side Bridge near Goodwin's Mill.—*Cumberland;* Alston Moor. Very near Aspatria, in a field on the East side of the town.—*Derbysh.* S. Normanton; Bakewell; Dethick; Wirksworth; Alport near Youlegrave; Bolton; and Behind the White Hart, Buxton.—*Devon:* In a field at Staverton. Dalich; Woodbury Hill; Marychurch.—*Dorset;* In Spetisbury Town Street; and in hedges above the village near the Rings.—*Durham;* Lane between Cawsey Hall and Beamish Burn.—*Essex;* In a lane leading to Upton. Ditch in the lane opposite Ham Hall. In the

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Fig. 1. Calyx.—Fig. 2. Same magnified.—Fig. 3. Back view of Corolla.—Fig. 4. Front view of do. with the 5 stamens and 3 stigmas.—Fig. 5. A separate Stamen.—Fig. 6. The Stigmas, magnified.—Fig. 7. Berry.—Fig. 8. Transverse section of ditto.

* From *Sambuca*, a musical instrument of the ancients, (perhaps the same as the Italian pipe *sampogna*), usually made of this plant. Dr. WITHERING.

† See *Anchusa sempervirens*, folio 48, note †.

‡ From a notion of its having sprung from the blood of the Danes.

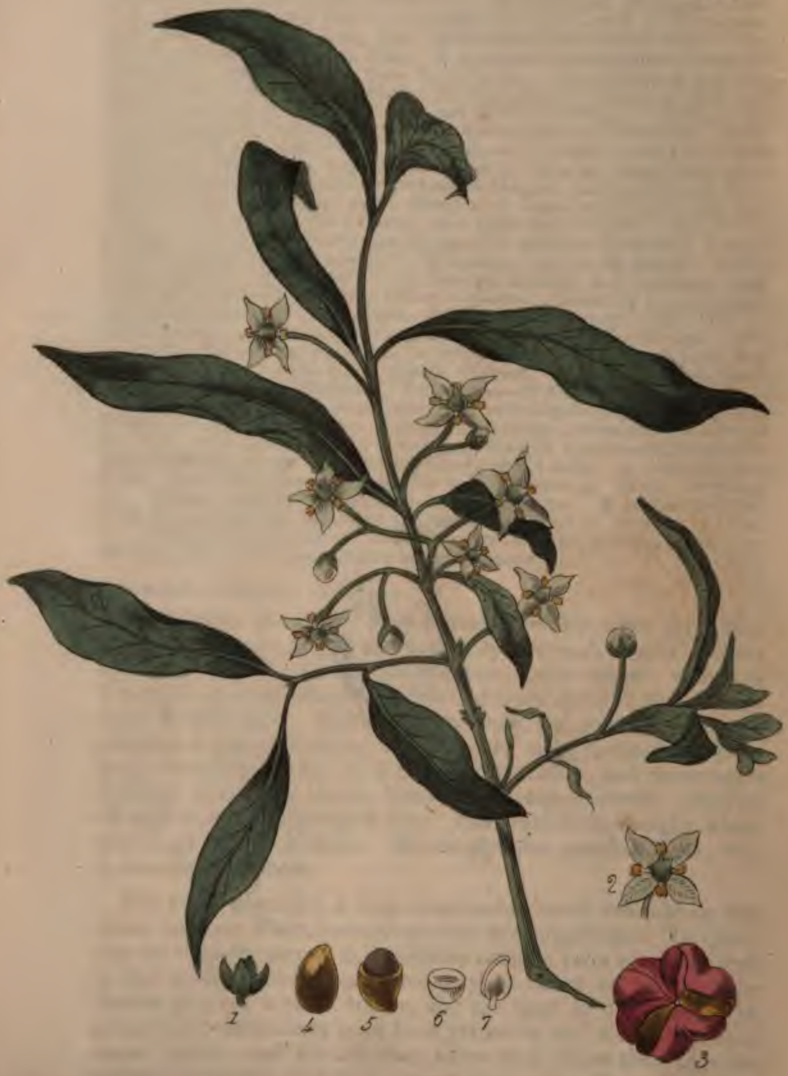
Castle Ditch at Pleshy. Near Danbury.—*Gloucestersh.* Barren Hills above the Avon, St. George's near Bristol. Dursley.—*Hants;* Between Luccomb and Bonchurch, Isle of Wight. Among the rubbish and ruined foundations of the Priory of Selborne. Near Carisbrook Castle, I. W. and near Housborn. In fields, and in the church-yard at King's Worthy near Winchester, 1834. Beaulieu Abbey, and Hordle church-yard.—*Huntingtonsh.* Warboys.—*Lancash.* Goose Green near Dalton.—*Leicestersh.* Church-yards at Normanton, near Loughborough, and Great Leke; fields leading from Rodely Plain to Turcaston.—*Middlesex;* Uxbridge Moor. In a meadow at Breakspears.—*Norfolk;* Honingham. Mendham long lane by Harleston. Near the church at Southwood, abundantly. Acle. Marham— *Northamptonsh.* Borders of fields and highways at Boughton; Hardingstone; and Wilton Lordships. On Slaton Hill at the crossing of Watling Street between Northampton and Daventry. Rockingham Forest near Kirby House.— *Nottinghamsh.* In great plenty in a close over against Gumston, in the path-way leading to Tolleston, about a mile and a half from Nottingham; also in Bunny Lane.—*Shropsh.* At Fern Hill near Whittington; about Whittington Castle.—*Somersetsh.* Doynton & Charkcombe, near Bath.—*Staffordsh.* Tudbury Castle; near Rudgeley.—*Suffolk;* Near Framlingham, in the road to Woodbridge, and near Parham in the same road. Brampton; Rumburgh. Near Lowestoft; Gorgleston, by the old steeple; Halesworth.—*Surrey;* On Riddle's Down between Croydon and Godstone. Left hand side of the road near Ewel Church.—*Sussex;* Generally on chalky soil, but not very common.—*Warwicksh.* At the foot of Tamworth Castle Hill, towards the river. Near Grafton Church on the side of the road.—*Yorksh.* Lund, in the East Riding; many places in the North Riding. Near Ripon, in the lane close to Leeming Turnpike Gate; near N. Allerton. Under Scarborough Castle Walls. Melsonby by Richmond; Piersbridge.—WALES. *Anglesey;* Plentifully on several spots near Beaumares. On a small declivity near Bryn; near Fferam Gorniog, in Pentraeth.—*Denbighsh.* Between Llansannan Church and the river.—*Merionethsh.* In a hedge near Harlech Castle.—SCOTLAND. Near Dumfries on the road towards Caerlavrock Castle. At Dupplin near Perth. Road-side between Kittochside and Carmunnock. Clyde ironworks, &c. Hedges at Gask, Perthshire, and near Culloden. Near Inverkeithing. Field by the road from Edinburgh to Dalkeith. S. bank of the water of Leith, &c.—IRELAND. Lambay. In Powerscourt Demesne, just before you enter the Deer-park, and in a churchyard below Kenmare.

Perennial.—Flowers in July.

Root fleshy, creeping: *Stem* annual, from 3 to 4 feet high, simple, upright, leafy, deeply and unequally furrowed, rough. *Leaves* opposite, unequally pinnate, dark green, nearly smooth, with 3 or 4 pair of egg-spear-shaped, pointed, sharply serrated *leaflets*, unequal at their base. *Stipulas* large, leafy, cut, sometimes accompanying a pair of leaflets, as well as the main *footstalk*. *Cymes* large, terminal, dense, in 3 principal branches, and those again dividing into many others, hairy, and many-flowered. *Flowers* all stalked, of a dull purplish hue. *Filaments* thick, upright, white, with large reddish *anthers*. *Berries* globular, purplish black, with 3, sometimes 4, *seeds*.

The whole plant has a very disagreeable smell, resembling that of the common Elder, but stronger and more unpleasant. Its qualities are violently purgative, sometimes emetic; yet a rob of the fruit is said to have been taken with safety, as far as an ounce. The berries give out a violet colour, and are used to dye blue. The green leaves drive away mice from granaries, and moles from their usual haunts; and the Silesians strew them where their pigs lie, under a persuasion that they prevent some of the diseases to which those animals are liable. No cattle will eat this plant. Boiled and reduced to powder it is used advantageously for scouring metallic vessels. See *Engl. Fl.; With.; Mart. Mill. Dict. &c.*

This species is distinguished from *Sambucus nigra (common Elder)*, by the creeping *root*, herbaceous *stem*, and longer and narrower *leaflets*.



EUÓNYMUS EUROPÆUS. *COMMON SPINDLE-TREE.* ♄

Pub^{d} by W. Baxter, Botanic Garden, Oxford 1835

C. Mathews, Sc.

EUO'NYMUS *.

Linnean Class and Order. PENTA'NDRIA †, MONOGY'NIA.

Natural Order. CELASTRI'NEÆ, *Dr. R. Brown.*—Lindl. Syn. p. 74; Introd. to Nat. Syst. of Bot. p. 110.—Rich. by Macgilliv. p. 537.—Loud. Hort. Brit. p. 508.—ROSA'LES; sect. ILICINÆ; type, CELASTRA'CEÆ; Burn. Outl. of Bot. pp. 614, 617, & 621.—RHAMNI, Juss. Gen. Pl. p. 376.—Sm. Gram. of Bot. p. 182.—DUMOSÆ, *Linnæus.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, in 4 or 5 deep, rounded concave segments, flat, with a peltate disk in the bottom. *Corolla* (fig. 2.) of 4 or 5 oblong, flat, spreading petals, inserted in the disk. *Stamens* (see fig. 2.) 4 or 5, inserted upon glands at the margin of the disk, alternate with the petals. *Anthers* 2-lobed. *Germen* (see fig. 2.) superior, depressed, pointed. *Style* short, simple. *Stigma* blunt. *Capsule* (fig. 3.) succulent, coloured, with from 3 to 5 angles, and as many cells and coriaceous valves having central partitions. *Seeds* (fig. 4.) solitary, egg-shaped; each enveloped in a coloured, fleshy *arillus* ‡. *Embryo* (fig. 7.) green, straight, in the axis of a fleshy *albumen* (see fig. 6.)

Distinguished from other genera, in the same class and order, by an inferior, flat *calyx;* a *corolla* of 4 or 5 petals; a *capsule* of 4 or 5 cells; and *seeds* with a coloured fleshy *arillus.*

One species British.

EUO'NYMUS EUROPÆ'US. Common Spindle-tree. Prickwood. Gatteridge-tree.

SPEC. CHAR. Branches smooth and even. Leaves egg-spear-shaped, petiolate. Flowers mostly 4-cleft and tetrandrous. Petals pointed.

Engl. Bot. t. 362.— Linn. Sp. Pl. p. 286.—Huds. Fl. Angl. (2nd ed.) p. 98.—Sm. Fl. Brit. v. i. p. 262.. Eng. Fl. v. i. p. 329.—With. (7th ed.) v. ii. p. 324.—Gray's Nat. Arr. v. ii. p. 620.—Lindl. Syn. p. 74.—Hook. Brit. Fl. p. 104.—Hunt. Evelyn's Silva, p. 412.—Lightf. Fl. Scot. v. i. p. 145.—Sibth. Fl. Oxon. p. 82.—Abb. Fl. Bedf. p. 52.—Purt. Midl. Fl. v. i. p. 131. and v. iii. p. 347.—Relh. Fl. Cantab. (3rd ed.) p. 100.—Hook. Fl. Scot. p. 81.—Grev. Fl. Edin. p. 55.—Fl. Devon. pp. 42 & 178.—Johnst. Fl. of Berw. v. i. p. 63.—Curt. Brit. Entom. v. iv. t. 194.—Walk. Fl. of Oxf. p. 66.—Perry's Pl. Varvic. Selectæ, p. 22.—Bab. Fl. Bath. p. 11.—Mack. Catal. of Pl. of Irel. p. 25.—*Euonymus vulgaris,* Ray's Syn. p. 468.—*Euonymus Theophrasti,* John. Gerar. p. 1468.

LOCALITIES.—In woods and hedges. Not uncommon in most parts of England; more rare in Scotland and Ireland.—*Oxfordsh.* In the lane leading from the Botley road to Binsey: Dr. SIBTHORP. Near Shotover Plantations; Heading Copse near Marston Lane; Headington Wick Copse; on the Woodstock road between Oxford and Summer Town; and between Northleigh and Ashford Mill: 1831, W. B.—*Berks;* Hedges between South Hinksey and Bagley Wood: W. B.—*Bedfordsh.* Renhold, Cople, and Aspley: Rev. C. ABBOT.—*Cambridgesh.* Madingley Wood, Granchester, Kingston Wood, &c.: Rev. R.

Fig. 1. Calyx.—Fig. 2. Corolla, Stamens, and Pistil.—Fig. 3. A Capsule.—Fig. 4. A Seed invested with the Arillus.—Fig. 5. The same, with part of the Arillus removed.—Fig. 6. Transverse section of a Seed.—Fig. 7. Embryo, a little magnified.

* From *Euonyme,* Mother to the Furies, in allusion to the injurious effects of the fruit produced by this plant. Dr. HOOKER.

† See *Anchusa sempervirens,* folio 48, note †.

‡ A process of the placenta adhering to the hilum of seeds, and sometimes enveloping them; a peculiar substance covering the seeds. G. DON.

Relhan.—*Cumberland;* By Ullswater in Gowbarrow Park: Mr. Hutchinson.—*Devon;* Woods and hedges, frequent. Chudleigh, Moreton, Ilsington, Totness, Marychurch, &c.: *Fl. Devon.—Dorset;* Common: Dr. Pulteney.—*Durham;* Castle Eden Dean; and Derwent-water, at Barrow: Mr. Winch.—*Essex;* Near Woodford; Mr. Warner.—*Gloucestersh.* About Bitton, and Wick: Rev. H. T. Ellicombe. In a hedge a little above the Dell rivulet, towards Longridge, near Painswick: Mr. O. Roberts.—*Kent;* Common near Feversham: E. Jacob, Esq.—*Notts;* In Wood-lane going to St. Ann's Well, Nottingham; and in many hedges besides: Dr. Deering.—*Somersetsh.* Frequent about Bath: Rev. C. C. Babington.—*Warwicksh.* Coleshill: Rev W. T. Bree. Oversley Wood, and Wetheley Wood: T. Purton, Esq.—*Wilts;* Near Great Bedwyn: W. Bartlett, Esq.—*Worcestersh.* Blackstone Rock, near Bewdley: Scott.—*Yorksh.* Near Rotherham: Mr. L. Langley, in Loud. M. N. H. v. ii. p. 269. Wood near Richmond: L. E. O. ibid. v. iii. p. 168.—*Berwick;* Ashwood; Belford: Thompson.—WALES. *Anglesey;* Llanfihangel Dinsylwi, above the sea. Old fortifications on Bryn Gwydryn, plentifully: Rev. H. Davies.—SCOTLAND. King's Park, near Edinburgh: Sibbald. Near Craigmillar Castle: Maughan.—IRELAND. Plentiful in the *County of Cork:* Mr. Drummond. Limestone Rocks near Galway, and Dargle Woods: Mr. J. T. Mackay.

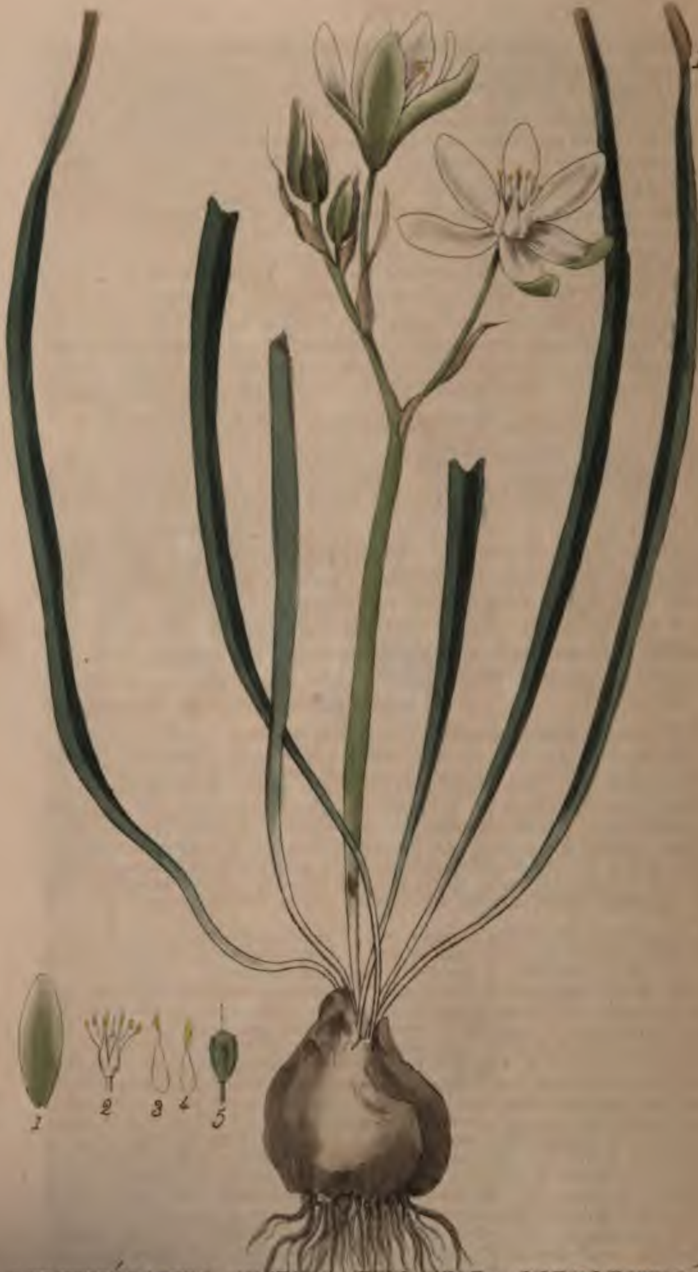
A Shrub, or small Tree.—Flowers in May and June.

From 3 to 12 or 18 feet high. *Branches* smooth, green, cylindrical, the younger ones angular. *Leaves* opposite, egg-spear-shaped, pointed, finely serrated, smooth, about 2 inches long, on short leaf-stalks, accompanied at their base by very small, awl-shaped *bracteas*, which soon fall off. *Flowers* in small, axillary, pedunculate, panicled clusters; the first that open are pentandrous, and have 5 petals; the others are mostly tetrandrous, and have only 4 petals. *Petals* small, greenish white. *Capsules* with 4 or 5 bluntish angles, of a fine rose-colour, sometimes white. *Arillus*, or outer coat of the *seeds*, of an orange colour, forming an elegant contrast with the red or white valves.

The whole plant is fœtid and poisonous. The berries operate violently on the bowels. They are said to be fatal to sheep and goats, if taken as food. Powdered, and sprinkled upon the hair, they destroy vermin. According to Linnæus, cows, goats, and sheep eat the leaves, but horses refuse them. Mr. Woodward observes, that cows are so fond of the shoots in the Spring, as constantly to break down the banks of the field wherever a plant of it stands. If the wood be cut when the plant is in blossom, it is tough, and is not easily broken; and in that state is used by watch-makers for cleaning clocks and watches, and to make skewers and toothpicks. Musical instrument-makers use it for keys of organs, &c.; and Linnæus informs us that it affords the best charcoal for drawing.

The *Natural Order* Celastri'neæ, is composed of *Shrubs* or *Trees*, with simple, alternate or opposite *leaves*, and axillary cymes of small whitish or greenish flowers. The *calyx* consists of 4 or 5 sepals, connected at the base, and imbricated previous to expansion. The *corolla* is composed of 4 or 5 flat, slightly fleshy petals, destitute of claws, and inserted under the margin of the disk, with an imbricate æstivation. The *stamens* are equal in number with the petals, and alternate with them, inserted either upon the edge of the disk, or upon its upper surface. The *anthers* are 2-celled, and burst inwards. The *disk* is large, expanded, flat, closely surrounding the ovary, and covering the flat part of the calyx. The *ovary (germen)* is superior, immersed in the disk and adhering to it, with 3 or 4 cells; the cells are 1- or many-seeded; the *ovules* fixed to the inner angle of the cells by a short narrow podosperm, and ascending. The *fruit* is superior; either a 3- or 4-celled capsule (fig. 3.), with 3 or 4 valves with a dissepiment in the middle of each, or a dry drupe containing a 1- or 2-celled nut; the cells of each are 1- or many-seeded. The *seeds* are ascending, seldom inverted by resupination, either provided with an arillus (fig. 5.), or without one; the *albumen* is fleshy; and the *embryo* (fig. 7.) straight; with flat, thick *cotyledons*, and a short inferior radicle. See *Lindl. Syn.; Rich. by Macgilliv.;* and *Don's Gen. Syst. of Gard. and Bot.*

Euonymus is the only British example of this order.



ORNITHÓGALUM UMBELLATUM. *STAR* OF *BETHLEHEM.* ♃

ORNITHO′GALUM[*].

Linnean Class and Order. Hexa′ndria[†], Monogy′nia.

Natural Order. Asphode′leæ[‡], *Dr. R. Brown.*—Lind. Syn. p. 266; Introd. to Nat. Syst. of Bot. p. 273.—Loud. Hort. Brit. p. 539.—Aspho′deli, Juss. Gen. Pl. p. 51.—Sm. Gram. of Bot. p. 74.—Lilia′ceæ, Rich. by Macgilliv. p. 403.—Lilia′les; sect. Lilia′cinæ; type, Asphodela′ceæ; subtype, Scillidæ; Burn. Outl. of Bot. pp. 418, 425, 427, & 428.

Gen. Char. *Calyx* none. *Corolla (Perianthium*[§]*)* inferior, of 6 spear-shaped, permanent petals (fig. 1.), somewhat thickened at the keel, approaching below, spreading above, withering upon the stalk. *Filaments* (fig. 2.) 6, upright, alternately larger or dilated at the base (see figs. 3 & 4.), attached to the base of the petals. *Anthers* terminal, versatile, shortened after the pollen is shed. *Germen* (fig. 5.) superior, angular, with intermediate furrows. *Style* (see fig. 5.) awl-shaped, upright, permanent. *Stigma* blunt. *Capsule* roundish, with 3 prominent angles, and 3 intermediate furrows, 3 cells, and 3 valves with central partitions. *Seeds* several, roundish.

Distinguished from *Gágea*, t. 41, by the stamens being dilated at the base, and by the stigma being blunt and not gaping; and, from all other genera, with a naked inferior corolla in the same class and order, by the 6 spear-shaped, permanent petals, and the filaments dilated at the base.

Three species British.

ORNITHO′GALUM UMBELLA′TUM. Common Star of Bethlehem.

Spec. Char. Flowers in a corymb; outer fruit-stalks taller than the central ones. Filaments dilated, tapering, entire.

Eng. Bot. t. 130.—Hook. Fl. Lond. t. 45.—Linn. Sp. Pl. p. 441.—Huds. Fl. Angl. (2nd ed.) p. 143.—Sm. Fl. Brit. v. i. p. 364. Engl. Fl. v. ii. p. 143.—With. (7th ed.) v. ii. p. 427.—Gray's Natur. Arr. v. ii. p. 179—Lindl. Syn. p. 269.—Hook. Brit. Fl. p. 155.—Sibth. Fl. Oxon. p. 111.—Abb. Fl. Bedf. p. 76.—Purt. Midl. Fl. v. i. p. 173.—Relh. Fl. Cantab. (3rd ed.) p. 139.—Hook. Fl. Scot. p. 102.—Fl. Devon. pp. 58 & 129.—Curt. Brit. Entomol. vol. x. t. 470.—Walk. Fl. of Oxf. p. 93.—Perry's Pl. Varv. Selectæ, p. 30.—Bab. Fl. Bath. p. 51.—*Ornithogalum vulgare et varius, majus et minus,* Ray's Syn. p. 372.—*Ornithogalum,* Johnson's Gerarde, p. 165.

Localities.—In meadows, pastures, and copses, in various parts of England, but not common.—*Oxfordsh.* Near Barton; and in Christ Church Meadow: Dr. Sibthorp, 1794. In Christ Church Meadow, 1829, Rev. Dr. Bridges, President of Corpus Christi College. In a copse between Sandford Toll-gate and an ancient farm house, in considerable abundance: April 2, 1831, W. B.—*Bedfordsh.* Everton Heath: Rev. C. Abbot.—*Bucks;* Hedges between Datchet and Eton in abundance: and sparingly in the meadows near Eton: Mr. Gotobed.—*Cambridgesh.* Fulbourn: Rev. R. Relhan.—*Cheshire;* Meadows near Cheadle Bridge, 3 miles from Stockport: Mr. G. Holme.—*Cornwall;* Near Marazion: Rev. W. T. Bree, in Loud. M. N. H. v. iv. p. 161.—*Cumberland;*

Fig. 1. A Petal.—Fig. 2. The 6 Stamens, Germen, and Pistil.—Figs. 3 & 4. Separate Stamens.—Fig. 5. Germen and Pistil.

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[*] From *ornis, ornithos,* Gr. *a bird;* and *gala,* Gr. *milk.* Dr. Hooker.

[†] See *Galanthus nivalis,* folio 33, note †.

[‡] See folio 41, a.

[§] See *Galanthus nivalis,* folio 33, note ‡.

Near Keswick: Mr. Hutton.—*Devon;* In orchards at Ilsington, apparently wild: *Fl. Devon.—Gloucestersh.* On the top of a hill 3 miles on this side of Bristol: Merrett. Bitton meadows, opposite the church: Rev. H. T. Ellicombe.—*Middlesex;* In plenty on the point of land adjoining Teddington Lock, and by the river side in that neighbourhood: E. K. in Loud. M. N. H. v. i. p. 83.—*Norfolk;* At Babergh near Norwich: Mr. Wagstaffe. Old Buckenham: Mr. Turner.—*Somersetsh.* In a field near the Caisson at Combehay: Dr. Davis.—*Suffolk;* At Little Stonham; Mrs. Cobbold.—*Surrey;* In the closes about Streatham: Dr. Martyn. In a piece of waste pasture near the Thames, West of the Red House; and in meadows W. of Wandsworth; I have seen it also plentiful in a meadow near Mortlake: Mr. W. Pamplin, jun. In a meadow near Wimbledon: W. W. Saunders, Esq. in Curt. Entom.—*Sussex;* At Lewes: W. Borrer, Esq.—*Warwicksh.* Meadows near the Avon, Warwick: Rev. W. T. Bree, in Loud. Mag. N. H. v. iii. p. 164. Near the pond in Godfrey's Lammas, Warwick: Mr. G. W. Perry.—*Wilts;* Near Great Bedwyn: W. Bartlett, Esq.—*Yorksh.* By Ledstone Hall near Leeds: Dr. Martyn. Meadows near Ripon; on the foot road to a pasture, called Red Bank, by Ripon: Mr. Brunton. In a field near Knaresborough: Mr. Robson. Near Rotherham: Mr. L. Langley, in Loud. M. N. H. v. ii. p. 269.—WALES. *Anglesey;* In a wood near Maes y Porth: Rev. H. Davis.—*Flintsh.* Meadows adjoining Basingwerk Abbey: D. Turner, Esq.—*Pembrokesh.* Wild in a wood close to Stackpole Court House: Mr. Milne.—SCOTLAND. Near Glasgow: Stark.

Perennial.—Flowers from April to June.

Bulb egg-shaped, tunicated, white, increasing plentifully by offsets. *Leaves* several, radical, strap-shaped, convex and striated on the outside, channelled within, with a white silvery rib, smooth, bluntish, and soon withering at the tip. *Scape (stalk)* from the centre of the bulb, upright, round, polished, from 8 to 10 inches high, terminating in a corymb of from 4 to 9 upright *flowers*, all nearly on a level at top, the lowermost peduncles being gradually longest. *Bracteas* solitary, at the base of each peduncle (partial stalk), large, membranous, spear-shaped, pointed, permanent, but soon withering and turning brown. *Corolla* white, with a broad green line along the under side of each petal. *Filaments* (figs. 3 & 4.) spear-shaped, flat, fleshy, every other broader. This species, as Mr. Woodward observes, is very improperly called *umbellatum*, the inflorescence being evidently *corymbose*.

This plant, though found apparently wild in so many parts of England, is supposed not to have been originally a British native. It is very common in gardens, where it is deserving a place in the flower borders, which it will enliven with its brilliant white blossoms, in sunny * days, from the latter end of April to the beginning of June. It is a native of the southern parts of Europe, Germany, France, Switzerland, Austria, Carniola, Italy, and the Levant; in orchards, pastures, vineyards, and thickets.

Linnæus says, (Mant. p. 364, and Prelectiones, p. 287.) that the roots of this plant are the *Dove's dung*, which was sold so dear during the siege of Samaria, (*II Book of Kings*, ch. vi. v. 25.); "which interpretation appears highly probable from the obvious identity of the name *ornithogalum (Bird's-milk)*, and which was applied to this plant by many of the antient writers, as Dioscorides, Pliny, &c., and from the circumstance that they are, when boiled, eaten at the present day by the poorer inhabitants of Palestine, where it grows in abundance; whence its English name *Star of Bethlehem.*" †

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* Pale as a pensive cloister'd nun
The *Bethlem-star* her face unveils,
When o'er the mountain peers the sun,
But shades it from the vesper gales.—Mrs. C. Smith.

† See "A Catalogue of the rarer species of Indigenous Plants, which have been observed growing in the vicinity of Battersea and Clapham, systematically arranged; with a reference to the figures in 'English Botany.' By W. Pamplin, jun. Lavender Hill Nursery. Clapham: printed by H. N. Batten. 1827."

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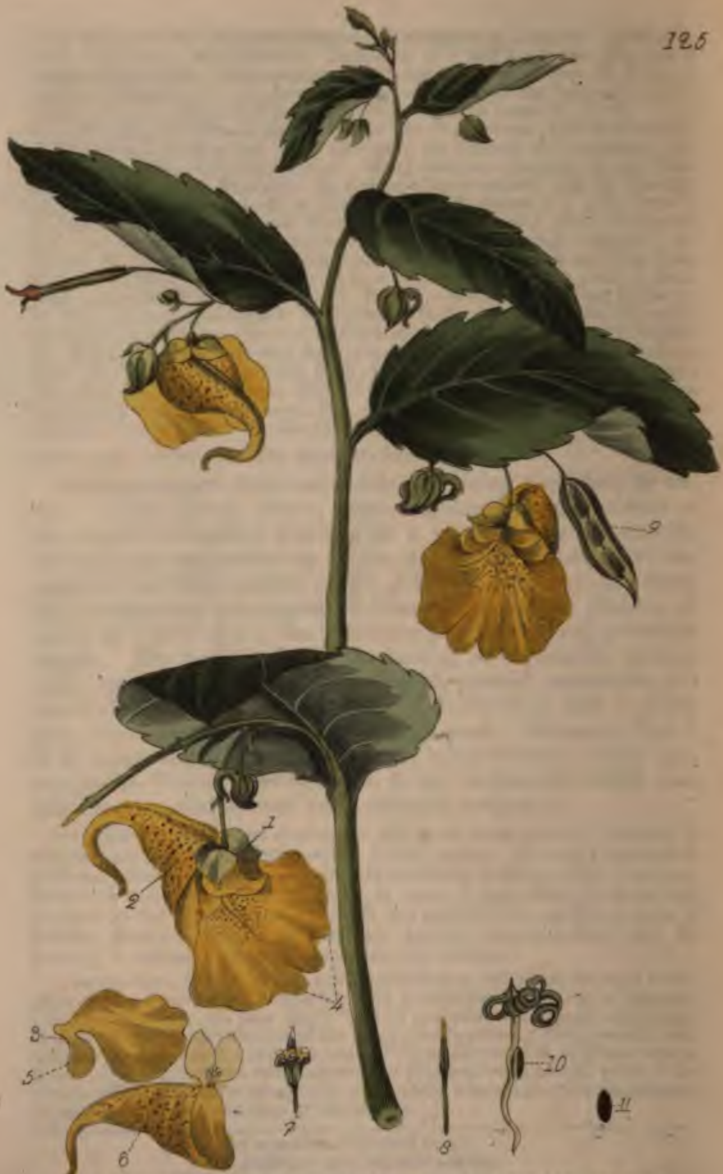

IMPÁTIENS NOLI-ME-TANGERE. *TOUCH-ME-NOT.* ☉

I.R. del. *Pub.d by W. Baxter Botanic Garden Oxford, 1835* *W.E.A. Sc.*

IMPA'TIENS*.

Linnean Class and Order. PENTA'NDRIA†, MONOGY'NIA.

Natural Order. BALSAMI'NEÆ, A. *Rich.*—Lindl. Syn. p. 59; Introduct. to Nat. Syst. of Bot. p. 142.—Loud. Hort. Brit. p. 506.—ROSALES; sect. GRUINÆ; type, BALSAMINA'CEÆ; Burn. Outl. of Bot. pp. 614, 808, & 811.—GERANIA, AFFINIA, Juss. Gen. Pl. pp. 268 & 269.—Sm. Gram. of Bot. pp. 147 & 148.—CORYDALES, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 2 small, roundish, pointed, concave, lateral, rather unequal, coloured, deciduous sepals. *Corolla* (fig. 2.) of 4 petals, 2 outer alternating with the sepals; upper one roundish, flat, slightly 3-cleft, pointed in the middle, constituting the upper lip; lower one (Nectary of *Linn.* fig. 6.) entire, tubular, tapering at the base into a curved spur; two inner petals (fig. 4.) large, alternating with the outer ones, reflexed, dilated outwards, blunt, irregular, usually bifid or appendiculate, constituting the lower lip. *Filaments* (fig. 7.) 5, fixed to the receptacle, short, incurved, thickened at the apex. *Anthers* 5, united at the base, 3 of them 2-celled, and the 2 in front of the upper petal 1-celled. *Germen* (fig. 8.) superior, of 5 cells. *Style* none. *Stigmas* 5, united. *Capsule* (fig. 9.) egg-oblong, pointed, of 5 cells and 5 strap-shaped valves, separating elastically, and rolling inwards from the base to the apex (see fig. 10). *Seeds* several, oval, attached to a membranous-bordered central column or placenta.

Three of the *anthers* being 2-celled, and 2 of them only 1-celled; the united *stigmas;* and the *capsule* of 5 cells, and 5 elastic valves; will distinguish this from other genera in the same class and order.

Two species British‡.

IMPA'TIENS NOLI-ME-TANGERE. Yellow Balsam. Touch-me-not. Quick-in-hand.

SPEC. CHAR. Joints of the stem swollen. Leaves egg-shaped, serrated. Peduncles 3- 4-flowered, shorter than the leaves, and spreading under them; Flowers pendulous; spur recurved at the end.

Engl. Bot. t. 937.—Linn. Sp. Pl. p. 1329.—Huds. Fl. Angl. (2nd ed.) p. 380.—Sm. Fl. Brit. v. i. p. 243. Engl. Fl. v. i. p. 299.—With. (7th ed.) v. ii. p. 332.—Lindl. Syn. p. 60.—Hook. Brit. Fl. p. 105. Hook. Fl. Scot. p. 76.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 750.—*Impatiens palustris*, Gray's Nat. Arr. v. ii. p. 630.—*Balsamine lutea, sive Noli me tangere,* Ray's Syn. p. 316.—*Persicaria siliquosa*, Johnson's Gerarde, p. 446.

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. One of the inner Petals, with the appendage, fig. 5.—Fig. 4. Two inner Petals.—Fig. 6. The lower outer Petal, (Nectary of *Linnæus*), with the Calyx and Stamens.—Fig. 7. The 5 united Anthers.—Fig. 8. The Pistil.—Fig. 9. A Capsule.—Fig. 10. The same after it has discharged the seeds.—Fig. 11. A Seed.

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* *Impatient;* from the sudden opening of the valves of the capsule, when the fruit is touched. Dr. HOOKER.

† See *Anchusa sempervirens*, folio 48, note †.

‡ A very eminent Botanist, W. BORRER, Esq. informs me, (Aug. 25, 1834,) that IMPATIENS *fulva* has been traced 6 or 7 miles along the river Wey, above and below Guildford, Surrey, as well as on several streams running into it, near Ripley, and at Albury, and Shiere. Probably the Rev. L. JENYNS' *Surrey* locality for *I. Noli-me-tangere,* belongs to this species.

Localities.—In moist shady places and banks of rivulets: chiefly in the North, but rare.—*Cheshire;* Near Lyme Hall: Mr. G. Holme.—*Cumberland;* Keswick: Mr. Hutton. At Scale Hill: N. J. Winch, Esq.—*Dorset;* In the grove at Dean's Court, Winbourne, apparently of natural growth: Dr. Pulteney.—*Lancash.* Satterthwaite, by the Cloth Mill: Ray. By the side of Coniston Lake: Mr. Woodward.—*Surrey;* Near Guildford: Rev. L. Jenyns.—*Westmoreland;* On the banks of Winandermere, and in little brooks, and watery places near Rydal Hall, plentifully: Sir J. E. Smith. Kirby Lonsdale, not far from the bridge: Mr. Woodward. Near the foot-path between the inn at Ambleside and the cascade: D. Turner, Esq.—*Wilts;* Sides of the river Avon, near Salisbury: Dr. Maton.—*Yorksh.* Roots of the old walls in Fountains Abbey: Teesdale. Banks of the Skell in Studley Woods: Mr. Brunton.— WALES. *Merionethsh.* By the road-side from Dolgelle to Erwgoed Chapel, about a mile short of the latter place on the right hand: Mr. A. Aikin.—*Montgomerysh.* Within a mile of Montgomery at Gwern Dhee: Merrett. Banks of the river Camlet at Morrington in the parish of Chirbury, about 5 miles from Montgomery: Bingley.—SCOTLAND. Abundant in a wet glen at Castlemilk, near Glasgow; but probably the outcast of a garden: Mr. Hopkirk.

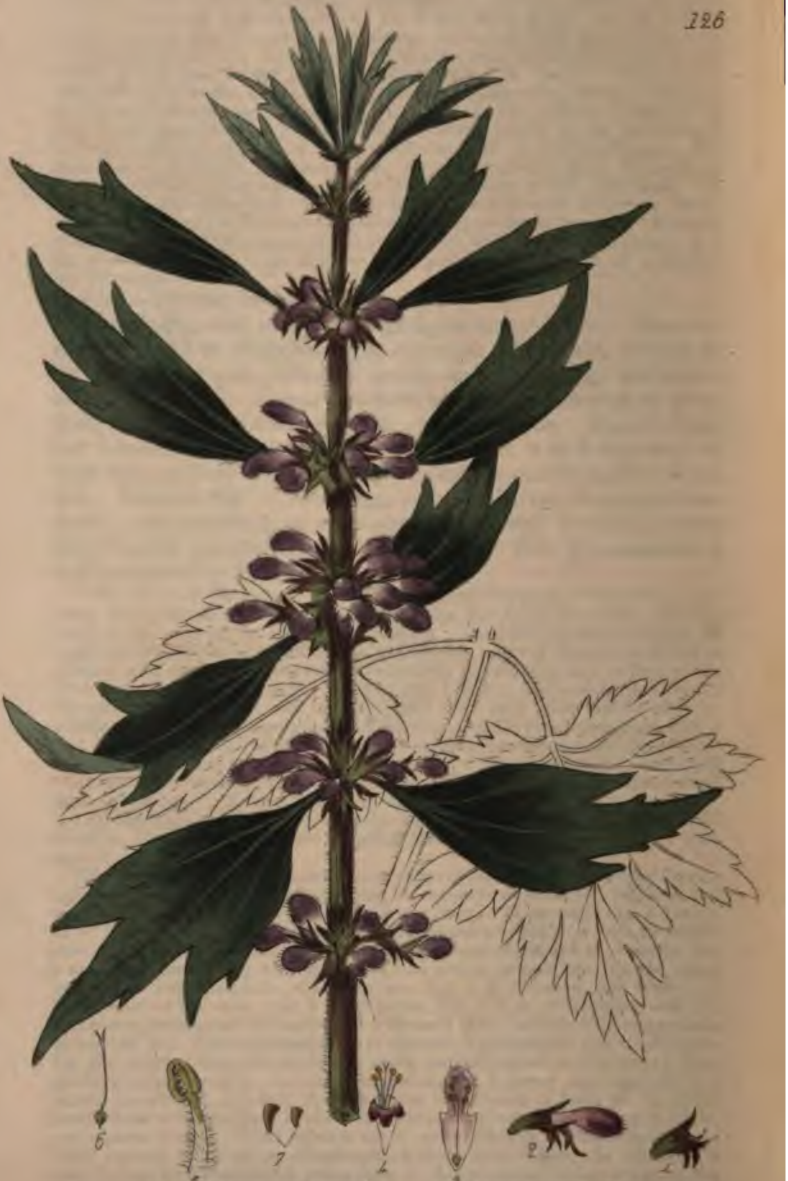
Annual.—Flowers in July and August.

Root fleshy, with many, entangled, horizontal fibres. *Stem* upright, from 12 to 18 inches high, succulent and brittle, swollen at the joints, of a pale yellowish green, smooth, shining, and somewhat transparent. *Leaves* alternate, stalked, egg-shaped or elliptical, irregularly serrated, smooth. *Stipulas* none. *Flowers* large and handsome, yellow, spotted with orange, 4 or 5 together, on branching axillary stalks; in dry ground the corolla is often abortive. *Capsule* (fig. 9.) succulent, when nearly ripe bursting elastically, and scattering its *seeds* with considerable force, the valves then become spirally twisted as in fig 10. This phenomenon is well explained by Dr. Lindley.

"The tissue of the valves," says this excellent Botanist, "consists of cellules, that gradually diminish in size from the outside to the inside; and the fluids of the external cellules are the densest. The latter gradually empty the inner cellules and distend themselves, so that the external tissue is disposed to expand, and the internal to contract, whenever anything occurs to destroy the force that keeps them straight. This at last happens by the disarticulation of the valves, the peduncle, and the axis; and then each valve rapidly rolls inwards with a sudden spontaneous movement. M. Dutrochet proved that it was possible to invert this phenomenon by producing exosmose: for that purpose he threw fresh valves of *Impatiens* into sugar and water, which gradually emptied the external tissue, and, after rendering the valves straight, at length curved them backwards." *Introd. to Bot.* p. 292.

The whole plant is considerably acrid, and no animal, except the goat, is said to eat it. The caterpillar of the Elephant Hawkmoth *(Sphinx Elpenor)* lives upon it.

The *Natural Order* Balsami'neæ consists of succulent *herbaceous* dicotyledonous plants, whose *leaves* are simple, opposite or alternate, toothed, and destitute of *stipulæ*. Their *peduncles* are axillary. Their *calyx* (fig. 1.) formed of 2 small, deciduous, opposite, usually mucronate sepals, which are imbricate in æstivation. Their *corolla* is inferior, and composed of 4 petals, the 2 outer ones alternating with the sepals, and ending in a callous tip, the upper one arched and emarginate, the lower one (figs. 2 & 6) entire, and drawn out into a spur at the base; the 2 inner petals (figs. 3 & 4.) alternating with the outer ones, more petal-like and equal with each other, usually bifid or appendiculate (fig. 5.) Their *stamens* are 5 in number, hypogynous, and closely girting the *ovary;* their *filaments* are short and thickened at the apex; their *Anthers* rather connate, bursting lengthwise, the 3 lower ones opposite the petals, egg-shaped, 2-celled, the 2 superior ones rising in front of the upper petal; these are sometimes 1-celled, sometimes 2-celled. Their *ovary* is single, and without a *style*. Their *stigmas* are 5, either distinct or connected into 1. Their *capsule* is oblong or egg-shaped, with 5 elastic valves, (fig 10.), and 5 cells formed by membranous projections of the placenta, which occupies the axis of the fruit, and is connected with the apex by 5 slender threads. Their *seeds* are numerous, and suspended, without *albumen;* the *embryo* is straight, with a superior *radicle;* and the *cotyledons* are flat on the inside and convex on the outside. Don and Lindley.



LEONÚRUS. CARDÍACA. MÓTHERWORT. ♃

I.R.Del. Pub.d by W. Baxter, Botanic Garden, Oxford 1835. C.Mathews, Sc.

LEONU'RUS*.

Linnean Class and Order. DIDYNA'MIA†, GYMNOSPE'RMIA‡.

Natural Order. LABIA'TÆ §, Juss. Gen. Pl. p. 110.—Sm. Gram. of Bot. p. 99. Engl. Fl. v. iii. p. 63.—Lindl. Syn. p. 196; Introd. to Nat. Syst. of Bot. p. 239.—Bentham, in Bot. Regist. (1829).—Rich. by Macgilliv. p. 439.—Loud. Hort. Brit. p. 528.—SYRINGALES; sect. MENTHINÆ; type, MENTHACEÆ; subtype, NEPETIDÆ; Burnett's Outl. of Bot. pp. 900, 958, 968, and 973.—VERTICELLATÆ, of *Ray* and of *Linnæus.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, tubular, cylindrical, with 5 prominent angles, and 5 sharp, spreading teeth, permanent. *Corolla* (fig. 2.) ringent; not above twice the length of the calyx; tube short, cylindrical, narrow; throat longish, but little dilated; limb spreading; upper lip (fig. 3.) longest, concave, protuberant, rounded and undivided at the summit, covered with soft hairs; lower lip, (fig. 4.) reflexed, in 3 deep, spear-shaped, undivided, smooth, nearly equal lobes. *Filaments* (figs. 3 & 4.) 4, 2 longer than the other 2, much shorter than the corolla, sheltered under the upper lip. *Anthers* (see fig. 5.) roundish-oblong, attached by the back, incumbent, clothed in an early state with minute, globular, solid, shining granulations, and soon bursting in front into 2 cells. *Germen* (fig. 6.) 4-lobed, abrupt. *Style* (fig. 6.) thread-shaped, incurved. *Stigma* of 2 pointed, spreading segments. *Seeds* (fig. 7.) 4, quadrangular, abrupt, hairy, in the tube of the slightly hardened, strongly veined calyx.

Distinguished from other genera in the same class and order, by the very hairy upper lip of the *corolla,* and the hard shining granulations with which the *anthers* are besprinkled.

One species British.

LEONU'RUS CARDI'ACA. Common Motherwort. Lion's-tail.

SPEC. CHAR. Upper leaves spear-shaped, either 3-lobed or undivided.

Engl. Bot. t. 286.—Linn. Sp. Pl. p. 817.—Huds. Fl. Angl. (2nd ed.) p. 261.—Sm. Fl. Brit. v. ii. p. 637. Engl. Fl. v. iii. p. 104.—With. (7th. ed.) v. iii. p. 717.—Lind. Syn. p. 199.—Hook. Brit. Fl. p. 275.—Lightf. Fl. Scot. v. i. p. 316.—Abbot's Fl. Bedf. p. 131.—Purt. Midl. Fl. v. i. p. 284.—Relh. Fl. Cantab. (3rd edit.) p. 244.—Hook. Fl. Scot. p. 184.—Grev. Fl. Edin. p. 133.—Fl. Devon. pp. 100 & 146.—Perry's Pl. Varvic. Selectæ, p. 50.—Mack. Catal. of Pl. of Irel. p. 56.—*Cardiaca vulgaris,* Gray's Nat. Arr. v. ii. p. 379.—*Cardiaca,* Ray's Syn. p. 239.—Johnson's Gerarde, p. 705.

LOCALITIES.—About hedges, and in waste places, on a gravelly or calcareous soil. Very rare.—*Bedfordshire;* Road-sides at Ford-End: Rev. C. ABBOT.—*Cambridgesh.* On the bank of the Newmarket Road, beyond the Paper Mills; at the back part of Trumpington, towards Shelford; and at Elm, near Wis-

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Fig. 1. Calyx.—Fig. 2. Calyx and Corolla.—Fig. 3. Under side of the upper lip of the Corolla, with the 4 Stamens.—Fig. 4. Lower lip of the Corolla, and the Stamens, and Pistil.—Fig. 5. A Stamen magnified to shew the Globules on the Anther.—Fig. 6. Germen, Style, and Stigma.—Fig. 7. Seeds.

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* From *Leon,* Gr. *Lion;* and *oupa,* Gr. *a tail;* from a fancied resemblance in the plant to a Lion's tail. Dr. HOOKER.

† See *Lamium album,* folio 31, note †.

‡ See folio 31, note ‡, and the second page of the same folio.

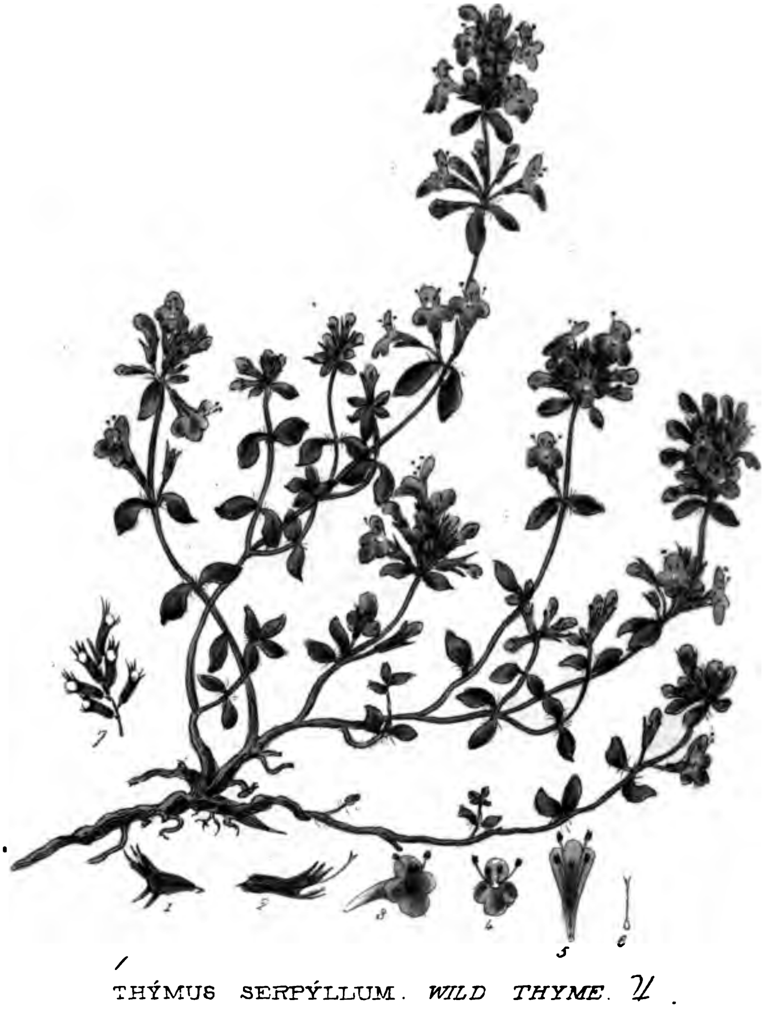
§ See *A'juga reptans,* folio 94, a.

beach: Rev. R. Relhan.—*Cumberland;* Langrigg, Broomfield: Mr. Hutchinson.—*Derbysh.* Handley: Mr. Coke. Mackworth: Mr. Pilkington.—*Devon;* Near the Rope-walk, Biddeford: Mr. Polwhele. Near Canonteign, Chudleigh, Lustleigh, North Bovery, and Teigngrace. *Fl. Devon.*—*Dorsetsh.* About dunghills, probably the outcast of gardens: Dr. Pulteney.—*Herefordsh.* Between Ledbury and Ross: Mr. Purton.—*Kent;* Cockset, in Ospringe, near Feversham: E. Jacob, Esq.—*Lancashire;* Near Southport: G. Crosfield, Esq. Liverpool.—*Leicestersh.* Found sometimes in farm-yards: Dr. Pulteney.—*Norfolk;* In a lane between Lexham and Newton: Gough's *Camden.* Earsham; and in a hedge, and on an adjoining bank, near Ditchingham: Mr. Woodward. Near Holkham: W. Borrer, Esq. By the wind-mill at Wortwell near Harleston: Rev. H. Tilney. Potter Heigham, on the road to Ludham: D. Turner, Esq. About Norwich: Sir J. E. Smith.—*Northumberland;* Naturalized in fields at Spring Gardens near Newcastle: N. J. Winch, Esq. Near Wycliffe: Rev. J. Harriman.—*Notts;* On the right hand going into Barford from Nottingham; on the left hand of Lenton Field going to the Abbey-yard from Nottingham Park; and near Brockstone in a close by the road-side leading to Nuttal: Dr. Deering.—*Somersetsh.* By the way side at Chedder: Mr. E. Forster, jun. Waste ground near Bristol: D. Turner, Esq. Near the village of Worle: Rutter's *Somerset*, p. 322.—*Suffolk;* Lane near the Toll-gate, Bury: Sir T. G. Cullum. About Bungay: Mr. Woodward. North Cove near Beccles: Mr. F. Turner.—*Surrey;* In a lane near Coombe Wood: Mr. Sowerby.—*Sussex;* Stopham Bridge near Pulborough: W. Borrer, Esq. In Selsey Island near Chichester: Hudson.—*Warwicksh.* King's Coughton: Mr. Purton.—*Worcestersh.* Near Malvern: Mr. Purton.—*Yorksh.* Between Tickhill and Worksop: Hudson. Lane near Melmerby: Mr. Brunton. About Leeds: Rev. W. Woods. Village of Scotton near Knaresborough: Rev. J. Dalton. Near Rotherham: Mr. L. Langley, in Loud. Mag. of Nat. Hist. v. ii. p. 270. Side of the river Don near Potteric Car: Mr. S. Appleby, ibid. vol. v. p. 558.—WALES. *Anglesey;* On old walls near Llanddyfnan Hall; on the Point near Beaumares: Rev. H. Davies.—*Flintsh.* In a hedge on the right of the road leading from Hawarden to Holywell, about two miles and a half from Hawarden: Bingley.—SCOTLAND. In a shady walk behind Fisherrow, and in Collington Woods, near Edinburgh: Mr. Maughan. About Cragnethan Castle, Glasgow: Mr. Hopkirk.—IRELAND. Road-side between Cork and Foaty: Mr. Drummond.

Perennial.—Flowers from June to September.

Root fibrous, by some authors considered biennial. *Stem* 2 or 3 feet high, upright, branched, minutely downy, purplish, sharply 4-angled, with intermediate channels; leafy. *Leaves* very numerous, opposite, on long footstalks (petioles), dark green, somewhat downy; the lowermost broadest, and deeply jagged; upper ones sharply 3-lobed; those about the summit spear-shaped and undivided. *Whorls* numerous, axillary, many-flowered. *Bracteas* bristle-shaped. *Calyx* rigid, with sharp spreading teeth. *Corolla* reddish-white, the upper lip clothed with dense, white, shaggy, upright hairs; lower lip deeper coloured, variegated, smooth, in 3 nearly equal, entire lobes. *Filaments* (fig. 5.) hairy. *Anthers* brown, besprinkled on the outside with white opaque globules, which look like enamel.

The plant has a strong but not an agreeable smell, and a bitter taste. It was formerly in use in palpitations of the heart, and in that disease of the stomach called heartburn; but its reputed virtues are now little regarded; yet hence originated its old appellation of *Cardiaca.*



THÝMUS SERPÝLLUM. *WILD THYME.* ♃

J. Ruſsell, Del. *Pub.^d by W. Baxter, Botanic Garden. Oxford. 1835.* *C. Mathews, Sc.*

THY'MUS[*].

Linnean Class and Order. DIDYNA'MIA[†], GYMNOSPE'RMIA[‡].

Natural Order. LABIA'TÆ[§], Juss. Gen. Pl. p. 110.—Sm. Gram. of Bot. p. 99. Eng. Fl. v. iii. p. 63.—Lindl. Syn. p. 196. Intr. to Nat. Syst. of Bot. p. 239.—Rich. by Macgilliv. p. 439.—Bentham, in Bot. Reg. (1829.)—Loud. Hort. Brit. p. 528.—SYRINGALES; sect. MENTHINÆ; type, MENTHACEÆ; subtype, SATURIDÆ; Burn. Outl. of Bot. pp. 900, 958, 968, & 972.—VERTICILATÆ, of Linn.

GEN. CHAR. *Calyx* (figs. 1 & 2.) inferior, of 1 sepal, 10-ribbed, tubular, 2-lipped, upper lip broadest, 3-toothed; lower lip bifid; throat closed by converging hairs (see fig. 7.) *Corolla* (figs. 3 & 4.) ringent; tube about as long as the calyx: 2-lipped, upper lip upright, nearly flat, blunt, with a small notch; lower lip spreading and 3-lobed, middle lobe entire. *Filaments* (see figs. 3, 4, & 5.) 4, slender, distant. *Anthers* 2-celled, cells parallel. *Germen* (fig. 6.) 4-cleft. *Style* (fig. 6.) thread-shaped. *Stigma* (see figs. 2 & 6.) in 2 pointed segments. *Seeds* 4, small, roundish, in the bottom of the closed calyx.

Distinguished from other genera, with a 2-lipped *calyx*, in the same class and order, by the bell-shaped *calyx*, the throat closed with converging hairs; and the lower lip of the *corolla* with the middle lobe entire. This last character will distinguish it from the genus *Calamentha*; and the bell-shaped calyx, not gibbous at the base, from that of *Acinos*.

One species British.

THY'MUS SERPY'LLUM[‖]. Wild Thyme. Mother of Thyme. Shepherd's Thyme.

SPEC. CHAR. Flowers in small heads. Stems branched, decumbent. Leaves flat, egg-shaped, blunt, entire; petiolate, and more or less ciliated at the base.

Engl. Bot. t. 1415.—Curt. Fl. Lond. t. .—Linn. Sp. Pl. p. 825.—Huds. Fl. Angl. (2nd ed.) p. 262.—Sm. Fl. Brit. v. ii. p 639. Engl. Fl. v. iii. p. 107.—With. (7th ed.) v. iii. p. 719.—Lindl. Syn. p. 204.—Hook. Brit. Fl. p. 272—Lightf. Fl. Scot. v. i. p. 318.—Sibth. Fl. Oxon. p. 188.—Abbot's Fl. Bedf. p. 132.—Purt. Midl. Fl. v. i. p. 279.—Relh. Fl. Cantab. (3rd ed.) p. 246.—Hook. Fl. Scot. p. 185.—Grev. Fl. Edin. p. 134.—Fl. Devon. pp. 101 & 146.—Johnst. Fl. of Berw. v. i. p. 134.—Walk. Fl. of Oxf. p. 170.—Bab. Fl. Bath. p. 39.—Mack. Cat. of Pl. of Irel. p. 57.—*Serpy'llum vulgáre*, Ray's Syn. p. 230.—Johnson's Gerarde, p. 570.

LOCALITIES.—On heaths and dry mountainous ground. Common.

Perennial.—Flowers from June to August.

Root woody, fibrous, somewhat creeping, and of a brownish colour. *Stems* numerous, slender, woody, recumbent, more or

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Figs. 1 & 2. *Calyx.*—Figs. 3 & 4. Corolla and Stamens.—Fig. 5. Vertical section of Corolla, showing the 4 Stamens and the Pistil.—Fig. 6. Germen, Style, and Stigma.—Fig. 7. Part of a Capitulum, after the corollas had fallen off.—All, except figs. 6 & 7, a little larger than nature.

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[*] From *thumos*, Gr. *strength;* from its balsamic odour, strengthening the animal spirits. Dr. HOOKER.

[†] See *Lamium album*, folio 31, note †.

[‡] See folio 31, note ‡, and also the 2nd page of the same folio.

[§] See folios 86, and 94, a.

[‖] The Latin name of *serpyllum*, and the Greek *erpullon*, is derived from *erpo*, Gr. *to creep.* Dr. MARTYN.

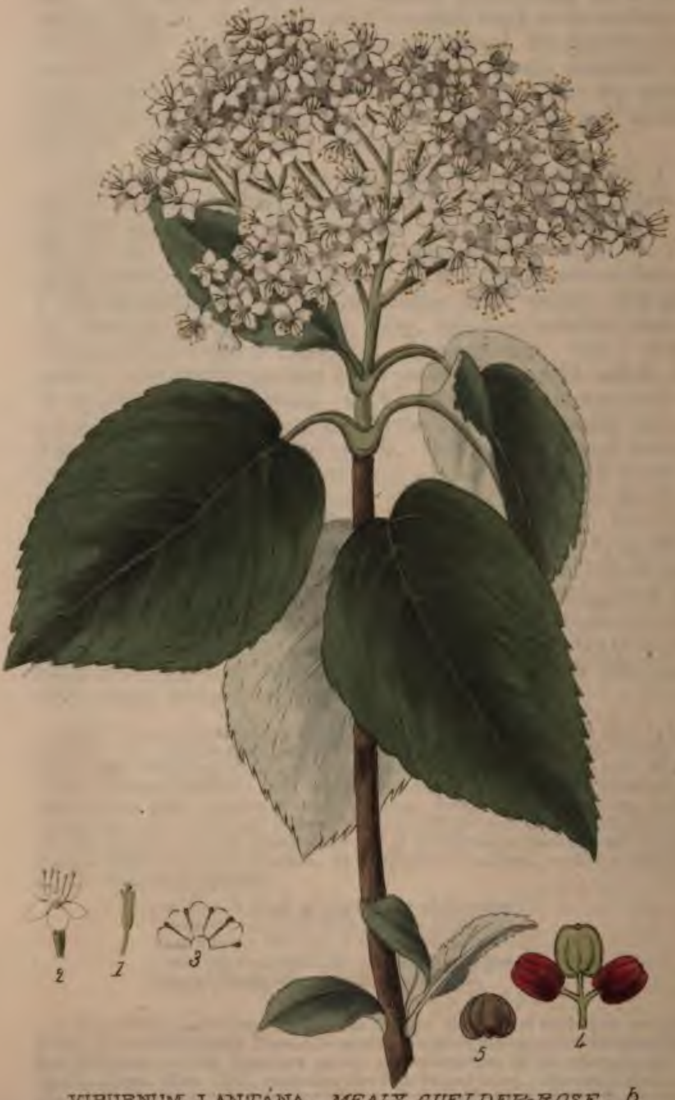
less downy, much branched, branches opposite or alternate, commonly tinged with red. *Leaves* opposite, oblong-egg-shaped, petiolate, very entire, with hollow dots on both surfaces, and a few long, white hairs at the base. *Flowers* purple, each on a short stalk (see fig. 7.), forming a small roundish head at the summit of the branches. *Calyx* (fig. 2.) coloured, striated, the mouth closed with white converging hairs (see fig. 7.). *Corolla* purplish red, small, upper lip upright; middle lobe of the lower lip entire. *Anthers* very minute. *Style* longer than the corolla, and turning upwards. *Seeds* very small, brownish.

This species is subject to considerable variations; Sir J. E. SMITH, in his *British Flora*, and Dr. WITHERING, in his *Botanical Arrangements*, enumerate 9 varieties: viz. 1. The Common Wild Thyme. 2. The white-flowered. 3. The large flowered. 4. The broad-leaved. 5. The Lemon Thyme. 6. The smooth narrow-leaved. 7. The hoary-leaved. 8. A more shrubby, hairy variety, with pale red blossoms. And 9. A small, hairy, creeping, scentless variety. Variety 4 was found in Okey-hole, Somersetshire. Var. 5 is frequently cultivated in gardens for its peculiarly agreeable odour, and its use for culinary purposes. Bees are fond of the flowers, and as it continues to blossom late, Dr. WITHERING recommends beds of it to be planted in every Bee garden. Being an accidental variety, it can only be preserved by means of slips or cuttings. It is found wild in Kent; at Downton-castle, Shropshire; and near the Nine Wells, by the foot-way to Shelford, Cambridgeshire. Var. 6 is found near Kitt's Coffee-house, Boxley Hill; and Var. 7, on Gogmagog Hills, Cambridgeshire; Bullington Green near Oxford; and other barren places: this scarcely differs in any thing from the common Thyme, except in its hairiness. Var. 8 is found on some of the Welsh mountains; and Var. 9 in Ireland. In GRAY'S *Natural Arrangement of British Plants*, vol. ii. pp. 382 & 383, some of the above varieties are made distinct species.

Wild Thyme is gratefully fragrant, and yields an essential oil that is very heating. An infusion of the leaves is recommended by LINNÆUS to remove the head-ache, occasioned by an excess of the preceding evening. It is reputed also to be an almost infallible cure for that troublesome disorder the *Incubus*, or *Night-mare*, taken by way of tea. It yields camphor by distillation, and is very grateful and refreshing to those who are afflicted with nervous disorders.—Dr. ARMSTRONG, in his Poem, *The Art of Preserving Health*, recommends the soil where this plant abounds, as particularly healthful, and the most desirable situation for building.

—— ——" Mark where the dry champaign
Swells into cheerful hills: where Marjorum
And *Thyme*, the love of bees, perfume the air;
There bid thy roofs high on the basking steep
Ascend, there light thy hospitable fires."
BOOK I. LINE 275.

" A general opinion prevails that the flesh of sheep, that feed upon aromatic plants, particularly upon *Thyme*, is much superior in flavour to common mutton; but Mr. BOWLES, the ingenious author of the account of the sheep-walks in Spain, (Gent. Mag. 1764), considers this as a vulgar error. He says, sheep are not fond of aromatic plants; that they will carefully push aside *Thyme* to get at the grass growing beneath it; and that they never touch it, unless when walking apace, and then they will catch at any thing. Branches of Thyme strewed about articles liable to damage from mice, are said to prevent their depredations; and probably sprinkling the essential oil might prove effectual." WITHERING.—Cottony galls are sometimes observable on the wild *Thyme;* these are supposed to be the nidus of a species of *Tephritis*.



VIBURNUM LANTÁNA. *MEALY GUELDER-ROSE.* ♄

J.R. del. Pub^d by W. Baxter, Botanic Garden, Oxford, 1835. W.E.A. Sc

VIBURNUM*.

Linnean Class and Order. PENTA'NDRIA†, TRIGY'NIA.

Natural Order. CAPRIFOLIA'CEÆ; sect. SAMBUCI'NEÆ; *Decand.*—Lindl. Syn. p. 131. Introd. to Nat. Syst. of Bot. pp. 206 and 207.—Rich. by Macgilliv. p. 460.—Loud. Hort. Brit. p. 519.—CAPRIFO'LIA; sect. 3. Juss. Gen. Pl. pp. 210 & 213.—Sm. Gram. of Bot. pp. 129 & 130.—DUMOSÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) superior, very small, of 1 sepal, in 5 deep segments, permanent. *Corolla* (figs. 2 & 3.) of 1 petal, shortly funnel-shaped, with 5 blunt, spreading, marginal lobes. *Filaments* (fig. 2.) 5, awl-shaped, spreading, as long as the corolla, inserted into its tube, alternate with the segments. *Germen* (see fig. 1.) inferior, roundish, a little compressed. *Style* none. *Stigmas* 3, sessile, blunt. *Berry* (figs. 4 & 5.) roundish, either globular or compressed, of 1 cell. *Seed* solitary, hard, roundish, compressed.

The superior, 5-cleft *corolla;* and *berry* with only one *seed;* will distinguish this from other genera in the same class and order.

Two species British.

VIBURNUM LANTA'NA. Pliant Mealy-tree. Mealy Guelder-rose. Wayfaring-tree.

SPEC. CHAR. Branches mealy. Leaves heart-shaped, serrated, veiny; downy beneath.

Engl. Bot. t. 331.—Jaquin's Floræ Austriacæ, t. 341.—Linn. Sp. Pl. p. 384.—Huds. Fl. Angl. (2nd ed.) p. 129.—Sm. Fl. Brit. v. i. p. 334. Engl. Fl. v. ii. p. 107.—With. (7th ed.) v. ii. p. 399.—Lindl. Syn. p. 132.—Hook. Brit. Fl. p. 142.—Lightf. Fl. Scot. v. i. p. 170.—Sibth. Fl. Oxon. p. 104.—Abb. Fl. Bedf. p. 69.—Purt. Midl. Fl. v. i. p. 160.—Relhan's Fl. Cantab. (3rd ed.) p. 129.—Hook. Fl. Scot. p. 96.—Fl. Devon. pp. 54 & 164.—Johnston's Fl. of Berw. v. ii. p. 278.—Walk. Fl. of Oxf. p. 86.—Bab. Fl. Bath. p. 22.—*Viburnum farinósum*, Gray's Nat. Arr. v. ii. p. 488.—*Viburnum*, Ray's Syn. p. 460.—*Lantána sive Viburnum*, Johnson's Gerarde, p. 1490.

LOCALITIES.—In woods and hedges, especially on a chalky or limestone soil. Common in many parts of England.—Rare in Scotland.—Very common in the vicinity of Oxford.

A Shrub or small Tree.—Flowers from May to July.

A large shrub, with numerous, opposite, round, pliant *branches*, which are clothed, in a young state, with a kind of mealy pubescence, consisting of tufted stellated down. *Leaves* deciduous, opposite, heart-shaped, rounded, finely serrated, strongly veined, downy, especially on the under side; the down radiated, each hair consisting of several rays diverging from a point. *Stipulas* none. *Bracteas* several, small, pointed. *Flowers* in large terminating, solitary, many-flowered *cymes*. *Corolla* white, cloven about half way down, spreading. *Anthers* yellowish. *Stigmas* sessile, short, blunt. *Berries* compressed, in an early state red on the outer side, yellow on the inner; finally black, with a little mealy astringent pulp. *Seed* large, heart-shaped, flat and furrowed.

Fig. 1. Germen, Calyx, and Stigma.—Figs. 2 & 3. Corolla and Stamens.—Fig. 4. Three of the Berries.—Fig. 5. A separate Berry.

* Name of doubtful origin.

† See *Anchusa sempervirens*, folio 48, note †.

The leaves turn of a dark red colour in the autumn. The bark of the root is used to make bird-lime, though inferior to Holly for that purpose. The berries are astringent. Evelyn says, a decoction of the leaves will not only dye the hair black, but will fasten the roots also.—The long, quick growing, tough branches, make excellent bands for faggots; and, according to Pallas, the young shoots are much esteemed in the crimea for the tubes of tobacco-pipes. A very minute fungus, probably a species of *Erysiphe*, is parasitical on the under surface of the leaves of this species, near Bagley Wood, Berks.

" The origin of one of the trivial names of this plant, is pleasingly, though fancifully accounted for, by one of Nature's own Poets, in the following lines."

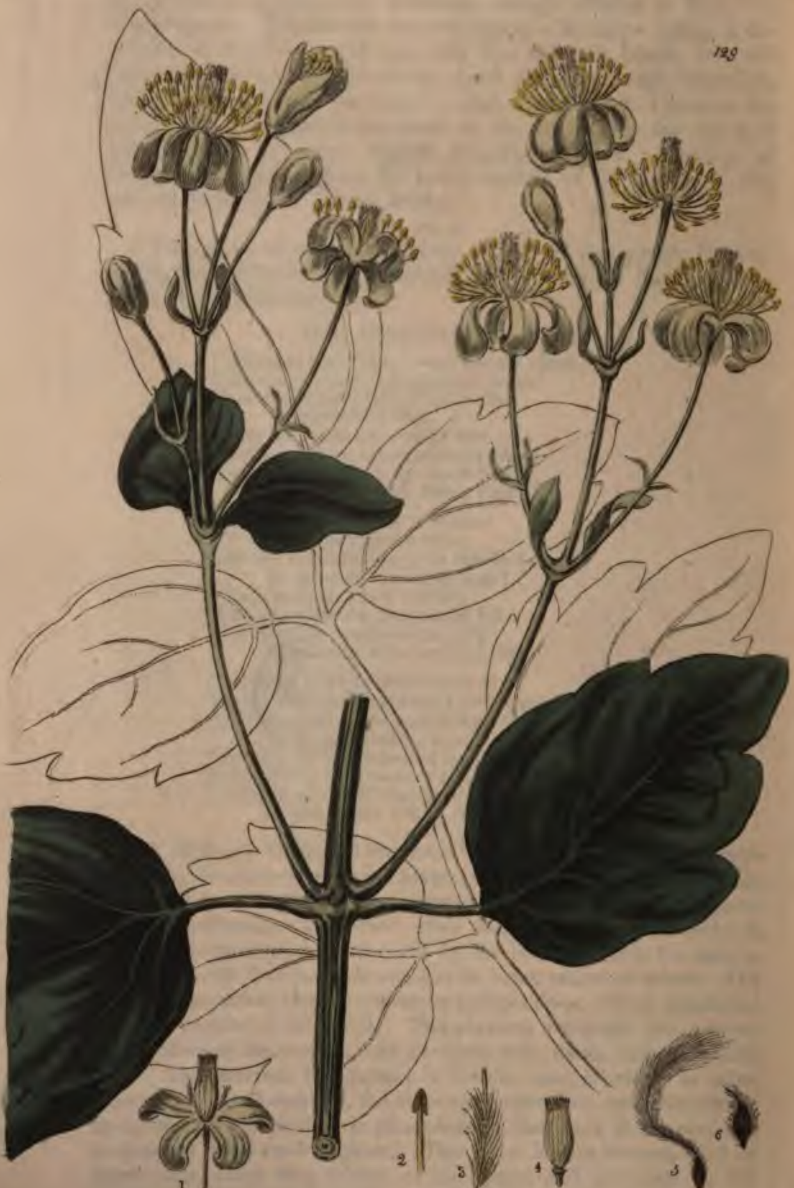
" THE WAY-FARING TREE.

" Way-faring Tree! what ancient claim
Hast thou to that right pleasant name?
Was it that some faint pilgrim came
Unhopedly to thee,
In the brown desert's weary way
'Mid toil and thirst's consuming sway,
And there, as 'neath thy shade he lay,
Bless'd the Way-faring Tree?

" Or is it that thou lov'st to show
Thy coronals of fragrant snow,
Like life's spontaneous joys that flow
In paths by thousands beat?
Whate'er it be, I love it well;
A name, methinks, that surely fell
From poet, in some evening dell,
Wandering with fancies sweet.

" A name given in those olden days,
When, 'mid the wild-wood's vernal sprays,
The merle and mavis pour'd their lays
In the lone listener's ear,
Like songs of an enchanted land,
Sung sweetly to some fairy band,
Listening with doff'd helms in each hand,
In some green hollow near."—W. Howitt.

The *Natural Order* Caprifolia'ceæ is composed of dicotyledonous *shrubs* or *herbaceous* plants, with opposite, rarely alternate *leaves*, without stipulæ. The flowers are usually cymose, sometimes corymbose, or umbellate, often sweet scented. The *calyx* is superior, monosepalous, adherent by its lower part to the *ovary*, generally with 2 or more *bracteæ* at its base, entire or lobed. The *corolla* is superior, monopetalous or polypetalous, wheel-shaped or tubular, regular or irregular. The *stamens* are equal in number to the lobes of the corolla, and alternate with them, (see plate 122, f. 4.) The *ovarium* has from 1 to 5 cells, one of which is often monospermous (1-seeded), the others polyspermous (many-seeded); in the former the ovulum is pendulous. The *style* is simple, and terminated by 1 or 3 stigmas. The *fruit* is indehiscent, of 1 or more cells, either dry, fleshy, or succulent, and crowned by the permanent lobes of the calyx. The *seeds* are either solitary and pendulous, or numerous and attached to the axis. The *testa* is often bony; the *embryo* is straight at the top of the fleshy albumen; and the *radical* is superior. See *Lind. Syn.* and *Rich*, by *Macgilliv.*



CLÉMATIS VITÁLBA. COMMON TRAVELER'S-JOY. ♄.

Russell del. Pub.d by W.Baxter, Botanic Garden, Oxford. 1835. C.Whessell sc.

CLE'MATIS[*].

Linnean Class and Order. POLYA'NDRIA[†], POLYGY'NIA.

Natural Order. RANUNCULA'CEÆ, Juss. Gen. Pl. p. 231.—Sm. Gram of Bot. p. 136.—Lindl. Syn. p. 7. Introd. to Nat. Syst. of Bot. p. 6.—Rich. by Macgilliv. p. 465.—Loud. Hort. Brit. p. 495.—ROSALES; sect. RANUNCULINÆ; subsect. RANUNCULIANÆ; type, RANUNCULACEÆ; subtype, CLEMATIDEÆ; Burn. Outl. of Bot. pp. 614, 828, 832, 837, & 838.

GEN. CHAR. *Involucrum* none, or situated under the flower, in the form of a calyx. *Calyx (corolla* of Linn.*)* (fig. 1.) inferior, of from 4 to 8, regular, oblong, coloured sepals, in the bud either valvular, or folded in at the edges. *Corolla* none. *Filaments* (see fig. 2.) numerous, swelling upwards. *Anthers* (see fig. 2.) terminal, of 2 oblong lobes, bursting laterally. *Germens* (fig. 3.) superior, sessile, egg-shaped, collected into a round head. *Styles* (fig. 3.) terminal, longer than the stamens. *Stigmas* simple. *Pericarps (seeds* of Linn.*)* (figs. 5 & 6.) indehiscent, numerous, egg-shaped, compressed, 1-seeded, placed on a capitate receptacle, and terminated by a long, mostly feathery tail.

The valvate or induplicate æstivation of the *calyx* (*corolla* of Linn.); the want of a *corolla*; the tailed *pericarps* (*seeds* of Linn.); and the capitate receptacle; will distinguish this from other genera in the same class and order.

One species British.

CLE'MATIS VITA'LBA[‡]. Common Traveller's Joy[§]. Virgin's Bower. Old Man's Beard[||].

SPEC. CHAR. Stem climbing. Leaves pinnate; leaflets heart-shaped, partly cut. Petioles twining, permanent. Panicles forked, not longer than the leaves.

Engl. Bot. t. 612.—Curt. Fl. Lond. t. 244! —Jacq. Fl. Austr. t. 308.—Linn. Sp. Pl. p. 766.—Huds. Fl. Angl. (2nd ed.) p. 238.—Sm. Fl. Brit. v. ii. p. 583. Engl. Fl. v. iii. p. 39.—With. (7th. ed.) v. iii. p. 673.—Lindl. Syn. p. 8.—Hook. Brit. Fl. p. 263.—Sibth. Fl. Oxon. p. 170.—Abbot's Fl. Bedf. p. 119.—Purt. Midl. Fl. v. i. p. 265.—Relh. Fl. Cantab. (3rd ed.) p. 220.—Hook. Fl. Scot. p. 171.—Grev. Fl. Edin. p. 122.—Fl. Devon. pp. 92 & 192.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 4.—Walk. Fl. of Oxf. p. 153.—Perry's Plantæ Varvic. Select. p. 45.—Bab. Fl. Bath. p. 1.—*Clématis dumosa,* Gray's Nat. Arr. v. ii. p. 727.—*Clematis latifolia, seu Atragene quibusdam,* Ray's Syn. p. 258.—*Viorna,* Johnson's Gerarde, p. 886.

LOCALITIES.—In woods and hedges, especially on a calcareous soil.—Common about Oxford, and in many other parts of England. Rare in Scotland.

Fig. 1. Calyx and Pistils.—Fig. 2. A Stamen.—Fig. 3. Germen, Style, and Stigma.—Fig. 4. Pistils.—Fig. 5. Pericarpium with its feathery tail.—Fig. 6. The same without the feathery appendage.

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[*] From *clema*, Gr. a *vine branch*; because most of the species climb like the vine. DON.

[†] See *Anemone nemorosa*, note †.

[‡] From *Vitis alba*, White vine. WITHERING.

[§] Thus named by GERARDE in 1597. " *Traveller's Joie*, as decking and adorning waies and hedges, where people travel. *Virgin's bower*, by reason of the goodly shadow which they make with their thick bushing and climbing; as also for the beautie of the flowers, and the pleasant scent or savour of the same."

[||] From the hoary appearance of the silky, elongated styles. WITHERING.

A Shrub.—Flowers in July and August.

Stems numerous, woody, angular, very long, much entangled, climbing up the adjoining shrubs and trees, to which they attach themselves by means of the permanent, hardened, twining *footstalks, (petioles,)* which serve as tendrils. *Leaves* deciduous, opposite, spreading; their *leaflets* 5, stalked, heart-shaped, pointed, finely hairy, either quite entire, unequally cut, or coarsely serrated. *Flowers* greenish white, sweet-scented, in axillary and terminal *panicles*. *Sepals* 4, sometimes 5, thick, spreading, reflexed, most downy on the outside. *Pericarps* (figs. 5 & 6.) furnished with long, wavy, feathery and silky tails, forming beautiful tufts, which towards autumn ornament and enliven the hedges, when flowers have vanished. The *seeds* retain their vegetative principle for many years, if kept dry. It is a noxious plant in hedges, as it is apt to suffocate and destroy those trees and shrubs which are planted for defence. The whole plant is astringent, corrosive, and diuretic. An infusion has been recommended in dropsy; it has also been used as a rubefacient in the treatment of rheumatism. The branches are so strong and pliant as to be used for bands or withs for faggots. Boys frequently cut off a piece from a dry branch, light it, and smoke it like a cigar; hence they call it *smoke-wood.* In France, the stems and branches are used for making bee-hives, baskets, &c. The dried leaves are said to form good fodder for cattle, notwithstanding they would poison the animals if they were eaten in a fresh state.

The *Natural Order* RANUNCULA'CEÆ is composed of polypetalous dicotyledonous *herbs*, or very rarely *shrubs;* with alternate or opposite, generally divided leaves, their petioles more or less dilated at the base, and forming a sheath half embracing the stem. *Hairs*, if any, simple. The *inflorescence* is variable. The *calyx* is composed of from 3 to 8 inferior, deciduous *sepals*, which are generally imbricate in æstivation, occasionally they are valvate or duplicate. The *corolla* consists of from 5 to 15 petals, which are inferior, and arranged in one or more rows, distinct; sometimes they are deformed in correspondence with metamorphosis in the stamens; sometimes (as in the genus Clematis) the *corolla* is wanting. The *stamens* are hypogynous, free, and indefinite in number; the *anthers* are adnate, and usually turned outwards. The *pistils*, which are seated on a torus or receptacle, are 1-celled or united into a single many-celled pistillum; the *ovarium* is one or more seeded, the *ovules* adhering to the inner edge; the *styles* are short and simple, one to each ovarium. The *fruit* is either pseudospermous*, baccate with one or more seeds, capsular, or follicular with one or two valves. The *seeds* are albuminous; when solitary, either upright or pendulous, or if many, usually disposed in one row along the margin of the carpel. The *embryo* is minute, and placed in the base of a corneous (horny) *albumen*.

Many of the plants of this order are very ornamental, and are, on that account, cultivated in gardens, but their acrid and venomous properties are very great. The principle upon which their deleterious powers depends is, according to the observation of KRAPPEN, of a very singular nature. It is so volatile, that in most cases, simply drying in the air, or infusion in water, is sufficient to destroy it; it is said to be neither acrid nor alkaline, but its activity is increased by the addition of acids, or the admixture of honey, sugar, wine, or alcohol, and it is in reality destructable only in water. The fresh herb applied externally to the skin causes blisters. The roots are usually drastic or emetic. See *Lindl. Synop. and Don's Gen. Syst. of Gard. and Bot.*

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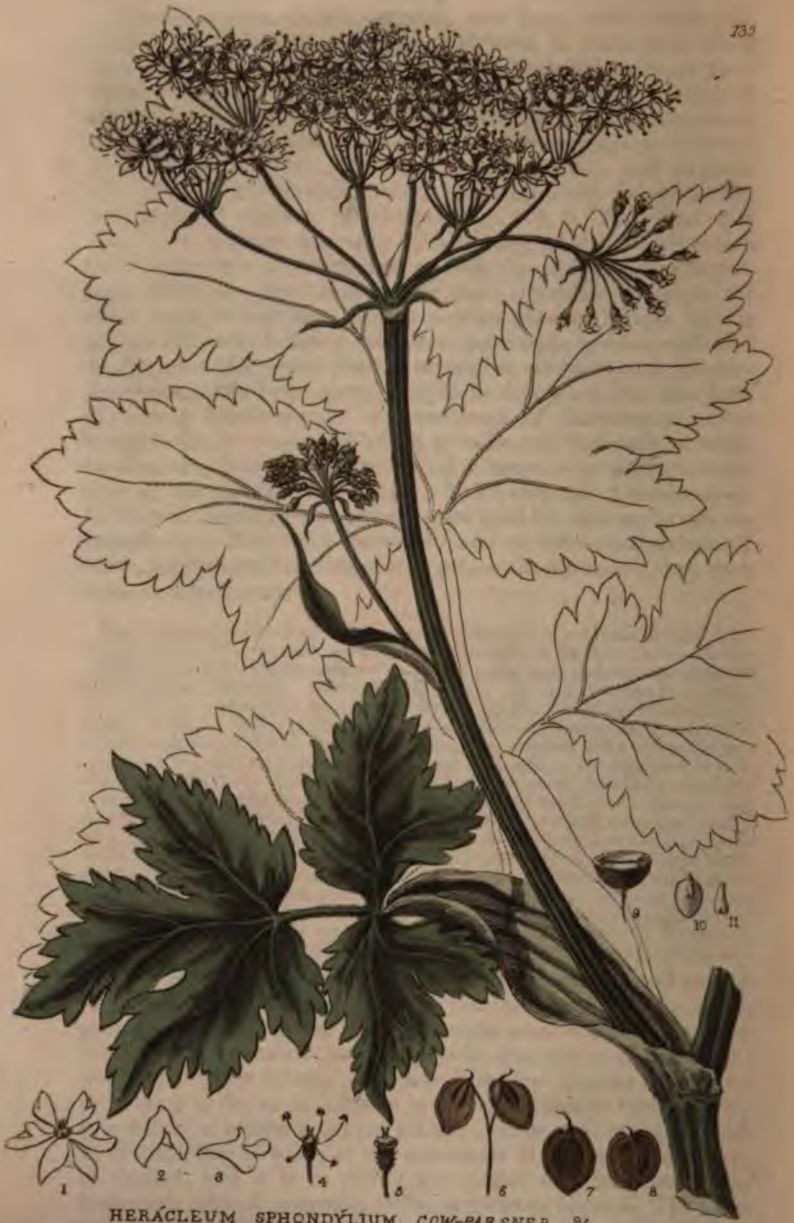
* A false seed, a small carpel, as those of Ranúnculus and Clématis. DON.



HERÁCLEUM SPHONDÝLIUM. *COW-PARSNEP.* ♃.

Russell del. 1835 Pubᵈ by W.Baxter, Botanic Garden, Oxford. J.Whessell sc.

HERA'CLEUM[*].

Linnean Class and Order. PENTA'NDRIA[†], DIGY'NIA.

Natural Order. UMBELLI'FERÆ, Juss. Gen. Pl. p. 218.—Sm. Gram. of Bot. p. 132.—Lindl. Syn. p. 111. Introd. to Nat. Syst. of Bot. p. 4.—Rich. by Macgilliv. p. 463.—Loud. Hort. Brit. p. 517. —UMBELLATÆ, Linn.—ROSALES, subord. ANGELICOSÆ; sect. ANGELICINÆ; Burn. Outl. of Bot. pp. 614, 762, & 770.

GEN. CHAR. *Flowers* incompletely separated; the inner ones barren, or abortive; those of the circumference perfect and prolific. *Calyx* superior, of 5 small, pointed teeth, obliterated in the fruit. *Corolla* (fig. 1.) of 5, inversely heart-shaped petals, their points inflexed; in the innermost flowers the petals are smallest, nearly equal and regular; in those of the circumference much larger, irregular and radiant, the outer one largest, with equal lobes, the rest more or less unequally divided; the 2 inner ones smallest, (see figs. 1, 2, 3.). *Filaments* (fig. 4.) 5, thread-shaped, longer than the corolla, spreading, a little incurved. *Anthers* roundish. *Germen* (figs. 4 & 5.) inferior, egg-shaped, slightly compressed transversely. *Styles* (see fig. 4.) 2, at first upright, rather short, subsequently flattened, spreading and somewhat elongated; broad and pyramidal at the base. *Stigmas* blunt, notched. *Floral Receptacle* (see fig. 5.) undulated, crenate, obtuse, a little broader than the bases of the styles to which it is united. *Fruit* (fig. 7.) inversely heart-shaped, somewhat elliptical, compressed transversely, surrounded by a flat dilated margin. *Carpels (seeds* of Linn.*)* (figs. 6 & 8.) with very slender ridges, 3 of them dorsal, equidistant, 2 lateral ones remote, contiguous to the dilated margin. *Channels (interstices)* with single club-shaped *vittæ*[‡]. *Seeds* (fig. 10.) flattened. Universal involucrum *deciduous;* partial, *of many leaves.*

The 5-toothed *calyx;* the inversely heart-shaped *petals,* inflexed at the point, the outer often radiant and bifid; the dorsally compressed *fruit* with a flat dilated margin; the *carpels* with very slender ridges, the 3 dorsal ones equidistant, the 2 lateral ones remote, and contiguous to the dilated margin; the *channels* with single club-shaped *vittæ;* and the flattened *seed;* will distinguish this from other genera in the same class and order.

One species British.

HERA'CLEUM SPHONDY'LIUM. Common Cow-parsnep. Hog-weed. Madnep.

SPEC. CHAR. Leaves pinnate; leaflets pinnatifid, cut and serrated.

Fig. 1. Corolla.—Figs. 2 & 3. Petals.—Fig. 4. Germen, Stamens, and Pistils. —Fig. 5. Germen, Pistils, and Floral Receptacle.—Fig. 6. The 2 Carpels, which formed the fruit, separated, and suspended by the central, thread-shaped, 2-parted column.—Fig. 7. Fruit.—Fig. 8. A separate Carpel.—Fig. 9. Transverse section of the Fruit.—Fig. 10. A vertical section of the Seed to shew the Embryo.—Fig. 11. The Embryo taken out, and slightly magnified.

[*] Named after HERCULES, who is said to have brought this, or some allied plant, into use. Dr. HOOKER.—BOHMER rather apprehends it to have been named after HERACLIDES, the father of HIPPOCRATES. Dr. WITHERING.

[†] See *Anchusa sempervirens,* folio 48, note †.

[‡] Receptacles of coloured oily matter, within the coat of the Carpels.

Engl. Bot. t. 939.—Linn. Sp. Pl. p. 358.—Huds. Fl. Angl. (2nd ed.) p. 117.—Sm. Fl. Brit. v. i. p. 307. Engl. Fl. v. ii. p. 102.—With. (7th ed.) v. ii. p. 375.—Lindl. Syn. p 116.—Hook. Brit. Fl. p. 117.—Lightf. Fl. Scot. v. i. p. 158.—Sibth. Fl. Oxon. p. 95.—Abbot's Fl. Bedf. p. 61.—Purt. Midl. Fl. v. i. p. 142.—Relh. Fl. Cantab. (3rd ed.) p. 117.— Hook. Fl. Scot. p. 89.—Grev. Fl. Edin. p. 65.—Fl. Devon. pp. 49 & 166.—Johnston's Fl. of Berw. v. i. p. 72.—Walk. Fl. of Oxf. p. 85.—Bab. Fl. Bath. p. 19.—Mack. Catal. of Pl. of Ireland, p. 28.—*Sphondy'lium vulgáre*, Gray's Nat. Arr. v. ii. p. 520.—*Sphondylium*, Ray's Syn. p. 205.—Johnson's Gerarde, p. 1009.

LOCALITIES.—In hedges, about the borders of fields, and in moist meadows. Very common.

Perennial.—Flowers in July.

Root fusiform, thick, yellowish without, white within, running deep into the ground; aromatic, sweetish, and rather mucilaginous. *Stem* from 2 to 4 or 5 feet high, upright, branched, leafly, hollow, furrowed, rough with white spreading hairs. *Leaves* very large, rough and hairy, ternate or pinnate; *leaflets* usually broad, somewhat heart-shaped, lobed, serrated, veiny, paler underneath. *Petioles (footstalks)* hairy, large, ribbed, dilated at the base into a kind of membranous bag, in its younger state sheathing, and inclosing the fruitstalks and umbells. *Umbells* flattish, of many angular *rays*, which are downy on one side, like the more numerous *rays* of the *umbellules (partial umbells)*. *General Involucrum* of 1 or 2 spear-shaped, pointed, membranous, finely fringed leaflets, sometimes wanting. *Partial Involucrum* of several similar leaflets. *Flowers* white, greenish white, or purplish; *petals* more or less radiating, unequal, irregularly obcordate (inversely heart-shaped). *Anthers* greenish. *Stigmas* semitransparent. Many of the flowers in the central portion of each *partial umbell* are abortive, with no traces of a *germen*. *Fruit* abundant, large, smooth, light brown, with 4 purplish brown lines on each side.

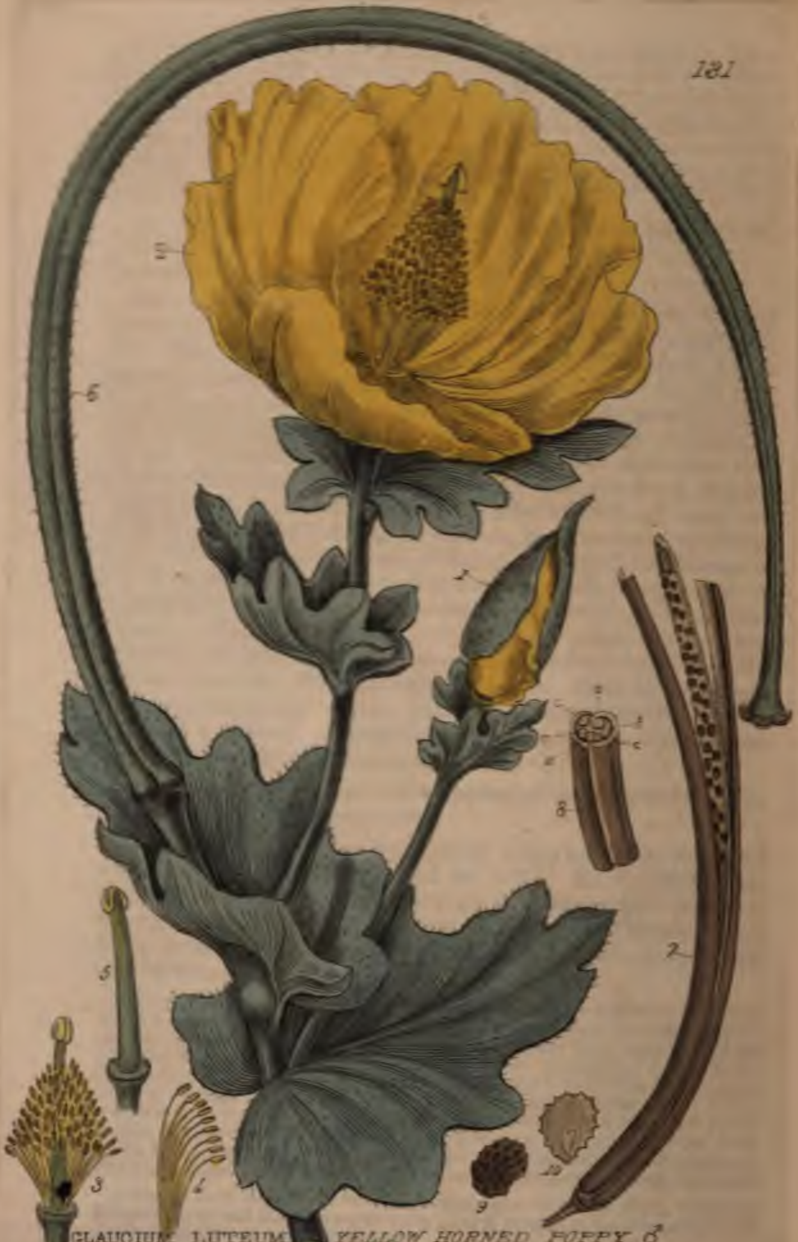
A narrow-leaved variety of this species (*H. angustifolium* of Sm. Fl. Brit.) is sometimes met with.

Herácleum sphondylium is considered a very nutritious plant, and a wholesome and nourishing food for cattle. Mr. COBBETT says he has fed working-horses, six or eight in number, upon this plant for weeks together. It is gathered in Sussex for fattening hogs, being known there by the name of Hog-weed. Cows, goats, sheep, and rabbits, are also fond of it.

GMELIN informs us, (in his *Flora Siberica*) that the inhabitants of Kamtschatka, about the beginning of July, collect the footstalks of the radical leaves, and after peeling off the rind, (which is very acrid,) dry them separately in the sun, and then tying them in bundles they lay them up carefully in the shade; during the process of drying they become covered with a saccharine efflorescence, which is considered a great delicacy. In Poland and Lithuania a kind of beer is brewed from the stalks thus prepared, and when mixed with *bilberries (Vaccinium uliginosum)* and fermented, the Russians distil a spirit from them, which GMELIN says is more agreeable to the taste than that procured from corn. The young shoots, when boiled, form a delicate vegetable resembling asparagus.

Attempts have been made to manufacture sugar from this plant, which the Kamschatkans call *Ratsch (sweet herb)*, but 40 pounds of the dried stalks only yielded a quarter of a pound of sugar.

Two minute fungi, *Puccinia Heraclei*, Grev. Scot. Crypt. Fl. t. 42.; and *Dothidea Heraclei*, Frie's Syst. Mycol. v. ii. p. 556, are parasitical on the living leaves of this plant about Oxford.



GLAUCIUM LUTEUM. *YELLOW HORNED POPPY.* ♂

I.R. Del. *Pub^d W. Baxter. Botanic Garden Oxford 18[illegible].*

GLAUCIUM[*].

Linnean Class and Order. POLY'ANDRIA[†], MONOGY'NIA.

Natural Order. PAPAVERA'CEÆ[‡], Juss. Gen. Pl. p. 235.—Sm. Gram. of Bot. p. 137.—Lindl. Syn. p. 16. Introduct. to Nat. Syst. of Bot. p. 8.—Rich. by Macgilliv. p. 497.—Loud. Hort. Brit. p. 498. —RHŒADEÆ, Linn.—ROSALES; sect. RHÆADINÆ; type, PAPAVERA'CEÆ; Burn. Outl. of Bot. pp. 614, 847, & 849.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 2 oblong, pointed, deciduous sepals. *Corolla* (fig. 2.) of 4 roundish-obovate, undulated, crumpled, spreading, deciduous petals, much larger than the sepals, with short claws, two opposite ones rather the smallest. *Filaments* (figs. 3 & 4.) numerous, hair-like, short. *Anthers* roundish, terminal, of 2 lobes. *Germen* (fig. 5.) superior, cylindrical, or somewhat compressed, longer than the stamens. *Style* none. *Stigma* large, blunt, permanent, of 2 or 3 cloven, compressed, downy lobes. *Pod* (figs. 6 & 7.) linear, very long, of 2 or 3 linear concave valves, opening from the top to the bottom, and as many cells. *Seeds* (figs. 9 & 10.) numerous, convex at the outer side, pitted in regular lines (fig. 9.), without a crest, disposed irregularly in 2 rows in each cell, being sunk in the hollow of a spongy or membranous *partition* (see fig. 7, and fig. 8, c. c. c.), connected with the linear marginal *receptacles*, (fig. 8. a. a.) which are placed between the edges of the valves, and bear the seeds on short stalks.

Distinguished from other genera, in the same class and order, by the 2-sepaled *calyx;* the 4-petaled *corolla;* the 2- or 3-celled *pod;* and the dotted *seeds.*

Three species British.

GLAUCIUM LUTEUM. Yellow Horned-poppy[§].

SPEC. CHAR. Stem smooth. Stem-leaves wavy. Pod roughish, with minute tubercles.

Hook. Fl. Lond. t. 56.—Sm. Fl. Brit. v. ii. p. 563. Engl. Fl. v. iii. p. 6.—With. (7th ed.) v. iii. p. 644 —Gray's Nat. Arr. v. ii. p. 703.—Lindl. Syn. p. 17. —Hook. Brit. Fl. p. 256. Fl. Scot. p. 167.—Grev. Fl. Edin. p. 119.—Fl. Devon. pp. 89 & 192.—Johnston's Fl. of Berw. v. i. p. 119.—Rev. G. E. Smith's Pl. of S. Kent, p. 29.—Curt. Brit. Entom. v. ii. t. 66.—Mack. Catal. of Pl. of Irel. p. 51.—*Glaucium flavum*, Don's Gen. Syst. of Gard. and Bot. v. i. p. 137.—*Chelidonium glaucium*, Linn. Sp. Pl. p. 724.—Huds. Fl. Angl. (2nd ed.) p. 229. —Lightf. Fl. Scot. v. i. p. 279.—Eng. Bot. t. 8.—*Papaver corniculatum luteum*, Ray's Syn. p. 309.—*Papaver cornutum, flore luteo*, John. Gerarde, p. 367.

Fig. 1. The Calyx.—Fig. 2. The Corolla.—Fig. 3. Stamens and Pistil.—Fig. 4. Some of the Stamens taken off, to show the manner in which they adhere to each other by the base of the filaments.—Fig. 5. The Germen and Stigma.—Fig. 6. The unripe Pod.—Fig. 7. Part of a ripe Pod, showing the spongy partition, and the valves separating from the summit to the base.—Fig. 8. A transverse section of the Pod, a. a. the receptacles; b. the spongy substance; c. c. c. the seeds.—Fig. 9. A Seed.—Fig. 10. The same vertically dissected to show the Albumen and Embryo.—The three last figures from Dr. HOOKER's Fl. Lond.

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[*] From *Glaucos*, Gr. in mythology, the name of a fisherman who leaped into the sea and became a sea-god; also sea-green or glaucous, in allusion to the colour of the plants and their habitation by the sea-side. G. DON.

[†] See *Chelidónium majus*, folio 51, note †.

[‡] See *Meconópsis cambrica*, folio 54, a.

[§] So called in English on account of the long horn-like pods.

Localities.—On sandy sea-shores; frequent.—*Devon;* Exmouth, Teignmouth, Paignton Sands, and Braunton Burroughs: *Fl. Devon.—Durham;* On the Ballast Hills of Tyne and Wear: N. J. Winch, Esq.—*Hampshire;* Ventnor, in the Isle of Wight.—*Kent;* Plentiful about Dover; and other parts of the coast.—*Lancashire;* North Shore, Liverpool, near the mouth of the river Alt: Mr. Shepherd. Sea-shore at Poulton, near Lancaster: G. Crosfield, Esq. Liverpool. Cartmel Sands, and Roosebeck: Mr. Woodward. In Walney Isle: Mr. Atkinson.—On the coast of *Norfolk.—Suffolk;* On the sea-coast, particularly about Dunwich: Mr. Woodward.—*Sussex;* At Hastings, and near Beachey Head: Dr. Bostock.—WALES. *Anglesey;* On the sea-beach, not uncommon: Rev. H. Davies.—SCOTLAND. *Berwick;* Sandy sea-coast at Coldingham: Rev. A. Baird. Sea-coast near Queensferry; and at Charlestown: Rev. J. Lightfoot. Sandy shores near Gosford and N. Queensferry: Mr. Maughan. Shores at Helensburgh, plentiful: Mr. Hopkirk. Abundant at Arran: Mr. Murray. Near Rosythe Castle; and on the gravelly bed of the water of Leith, beyond Coltbridge: Mr. Neill.—IRELAND. Sandy sea-shores, frequent: Mr. J. T. Mackay.

Biennial.—Flowers in July and August.

Root spindle-shaped. *Plant* very glaucous. *Stems* much branched, spreading, from 1 to 3 feet long, round, smooth, decumbent, ascending at the ends. *Root-leaves* numerous, stalked, a span long, pinnatifid, lyrate, lobed, cut, hairy, lasting through the winter. *Stem-leaves* short, broad, lobed, and cut, rough above, smooth beneath, clasping the stem with their heart-shaped base. *Branches* forked. *Flower-stalks* lateral and terminal, thick, smooth, scarcely so long as the calyx. *Calyx* large, oval, rough with short hairs, falling off as the flower opens. *Corolla* large and handsome, of a golden yellow. *Petals* large, egg-shaped, an inch and a half long. *Pod* very long, often 10 or 12 inches, curved, roughish with minute tubercles, rarely quite smooth. Surface of the *Seeds*, in every species, curiously cellular (see fig. 9.)

The large and numerous flowers, which although of short duration, succeed one another in great abundance during most part of the Summer, make a fine contrast with the sea-green dew-bespangled leaves, and are a great ornament to our sandy shores. The whole plant abounds in a yellow juice, is fœtid, and of a poisonous quality. It is said to occasion madness. Probably the *Glaucium* of Dioscorides. See *Engl. Fl.* and *Engl. Bot.*

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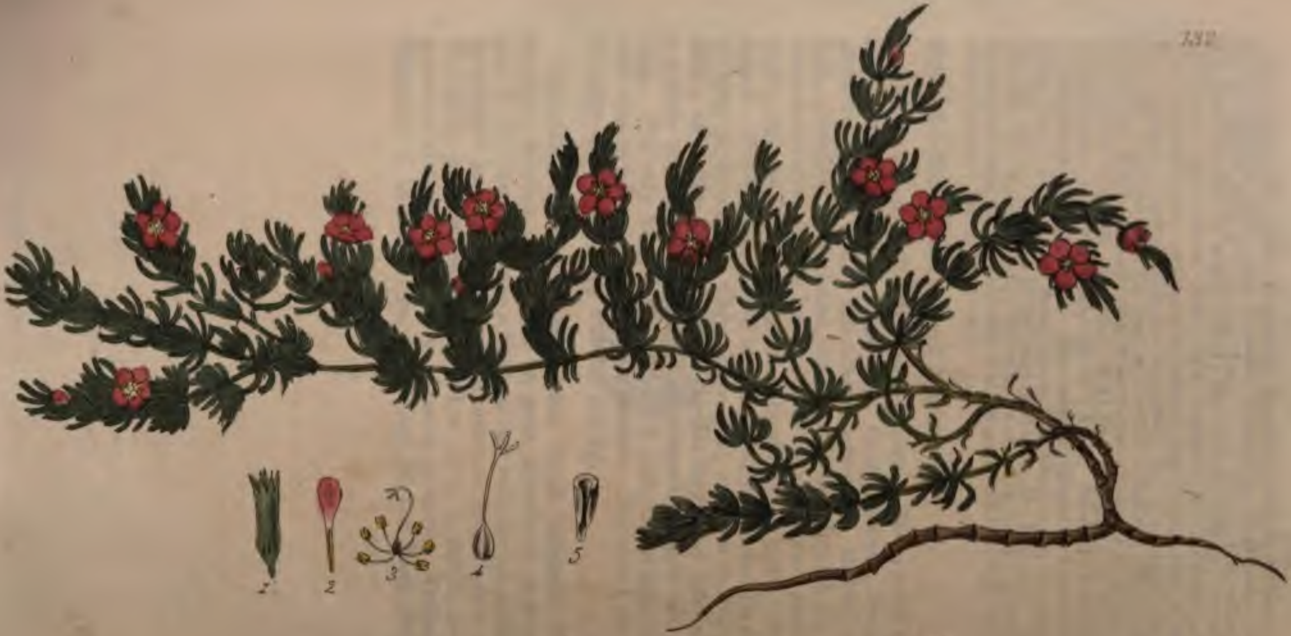

FRANKÉNIA LÆVIS. SMOOTH SEA-HEATH. ♃

J.H. Del.

Pub.d by W. Baxter Botanic Garden. Oxford. 1835.

C. Mathews Sc.

FRANKE'NIA*.

Linnean Class and Order. HEXA'NDRIA†, MONOGY'NIA.

Natural Order. FRANKENIA'CEÆ, *St. Hilaire.*—Lindl. Syn. p. 38. Introd. to Nat. Syst. of Bot. p. 157.—Rich. by Macgilliv. p. 506.—Loud. Hort. Brit. p. 501.—Akin to CARYOPHYLLEÆ, Juss. Gen. Pl. p. 303.—Sm. Gram. of Bot. p. 161.—ROSALES; subord. RŒADOSÆ; sect. CISTINÆ; type, FRANKENIA'CEÆ; Burn. Outl. of Bot. pp. 614, 784, 792, & 798.—CALYCANTHEMÆ, Linn.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, somewhat cylindrical, with 5 angles, permanent; the border with 5 pointed, spreading teeth. *Corolla* of 5 petals, their claws as long as the calyx; the limb of each inversely egg-shaped, or wedge-shaped, and spreading (see fig. 2). *Nectary* a channelled membrane, on the inner side of each claw (see fig. 2). *Filaments* (fig. 3.) 6, the length of the calyx, thread-shaped, nearly equal. *Anthers* roundish, 2-lobed. *Germen* (fig. 4.) superior, egg-oblong, with 3 furrows. *Style* upright, cylindrical, as long as the stamens. *Stigmas* (see fig. 4.) 3, oblong, blunt, downy, spreading. *Capsules* egg-shaped, of one cell, and 3 or 4 valves. *Valves* bearing many seeds at their margins. *Seeds* egg-shaped, very small.

The 1-sepaled, inferior *calyx;* the 5-petaled *corolla;* and the 1-celled, many-seeded *capsule;* will distinguish this genus from others in the same class and order.

Two species British.

FRANKE'NIA LÆVIS. Smooth Sea-heath.

SPEC. CHAR. Flowers solitary. Leaves strap-shaped, revolute at the margin, crowded, smooth, fringed at the base.

Engl. Bot. t. 205.—Linn. Sp. Pl. p. 473.—Huds. Fl. Angl. (2nd ed.) p. 137.—Sm. Fl. Brit. v. i. p. 387. Engl. Fl. v. ii. p. 186.—With. (7th ed.) v. ii. p. 452.—Gray's Nat. Arr. v. ii. p. 664.—Lindl. Syn, p. 39.—Hook. Brit. Fl. p. 150.—Relh. Fl. Cant. (3rd ed.) p. 146.—Annals of Bot. v. ii. p. 29.—Rev. G. E. Smith's Pl. of S. Kent, p. 22.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 376.—*Lychnis supina maritima Ericæ facie*, Ray's Syn. p. 338.—*Polygonum serpillifolium*, Johnson's Gerarde, p. 566.

LOCALITIES.—In muddy salt marshes; rare.—*Cambridgeshire;* Tydd Gote, near Wisbeach: Rev. R. RELHAN.—*Durham;* Sunderland Ballast Hills: Mr. WEIGHELL.—*Essex;* In the marshes about Thurrington: RAY. On the shore near Wakering, below South End: Mr. E. FORSTER, jun.—*Kent;* In the Isle of Shepey, abundant: Rev. Dr. GOODENOUGH. Salt marshes near Sandwich: Mr. J. WOODS, jun. On the coast of the Isle of Thanet; and by Archcliff Fort, Dover: L. W. DILLWYN, Esq. Upon the Salt Marshes; Dimchurch; New Romney; Sandwich; and Pegwell Bay. Upon moist chalk-cliffs near Lydden Spout, and East of Dover: Rev. G. E. SMITH.—*Norfolk;* Moist parts of Yarmouth Denes near the Ferry, on the edges of ditches: Mr. WIGG. Near Cley: Mr. E. FORSTER, jun.—*Suffolk;* Walberswick, &c.: Mr. DAVY. The edges

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Fig. 1. Calyx.—Fig. 2. A Petal.—Fig. 3. Stamens and Pistil.—Fig. 4. Germen, Style, and Stigmas.—Fig. 5. The lower half of a Leaf, cut transversely to show how the margins are rolled backwards.—All more or less magnified.

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* So named by LINNÆUS, in honour of JOHN FRANKENIUS, Professor of Botany at Upsal, who first enumerated the plants of Sweden in *Speculum Botanicum*, 1638. He died in 1661.

† See *Galánthus nivális*, folio 33, note †.

of the Salt-water Pools near the Pier at the mouth of the Yare, are all beautifully fringed with this elegant plant: Mr. Wigg.—*Sussex;* At Southwick: W. Borrer, Esq. On the rocks, and by the shore at Hastings: Mr. E. Forster, jun.

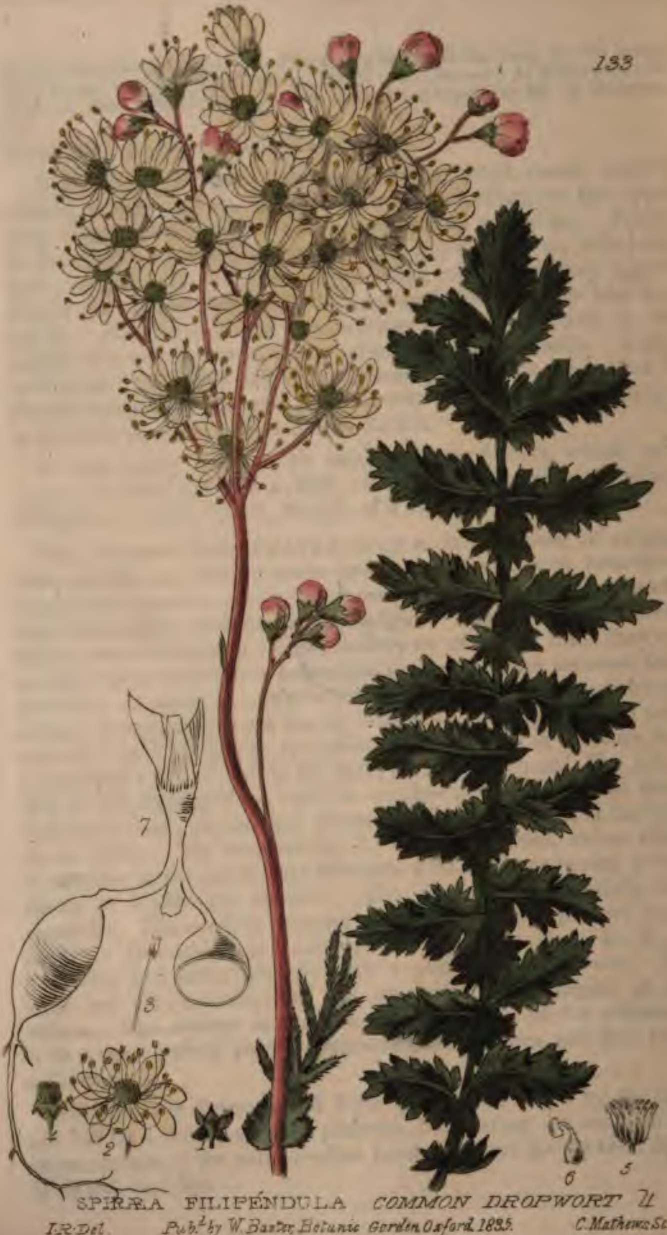
Perennial.—Flowers in July and August.

Root woody, blackish. *Stems* numerous, forked, round, slightly downy, trailing on the ground, of a reddish colour on the upper side, much branched; branches leafy, partly ascending. *Leaves* in little tufts, somewhat glaucous, about a quarter of an inch long, fleshy, egg-shaped, but the margins being rolled back they appear almost cylindrical with a groove underneath, flatted at the base (see fig. 5). *Flowers* from the ramifications of the stem, and in the middle of a tuft of leaves, partly terminal, solitary, sessile. *Calyx* with from 5 to 7 ribs and as many teeth, but rarely more than 5. *Petals* wedge-shaped, flesh-coloured, with a yellow, fleshy nectary at the base of each. *Style* deeply 3-cleft.

A very pretty plant, with small delicate flowers, which very much resemble those of a little red pink or champion, to which this plant is nearly allied, though of a very different habit.

The *Natural Order* FRANKENIA'CEÆ is composed of elegant little *herbaceous plants, undershrubs,* or *shrubs,* with branching *stems,* and opposite, exstipulate *leaves,* with a membranous sheathing base; often revolute at the margin. The *flowers* are either white, rose-coloured, or yellow, axillary or terminal; when they are axillary the peduncles are 1-flowered; when they are terminal they are either disposed in corymbs or loose racemes. The *pedicles* are always accompanied by a leaf or bractea. The *calyx* (fig. 1.) consists of 4 or 5 upright or spreading *sepals,* united at the base into a furrowed tube, or cleft to the base, permanent, equal. The *petals* (fig. 2.) are hypogynous, equal in number to the sepals, and alternate with them, unguiculate (clawed), with appendages at the base of the limb. The *stamens* (fig. 3.) are hypogynous, either equal in number to the petals, and alternate with them, or having a tendency to double the number. The *anthers* are roundish, and versatile. The *ovary* is superior; and the *style* simple, and 2- or 3-cleft. The *capsule* is 1-celled, enclosed in the calyx, 2-, 3-, or 4-valved, and many-seeded; with a septicidal *dehiscence.* The *seeds* are very minute, and are attached to the margins of the valves. The *embryo* is straight in the middle of the *albumen,* with a short radicle pointing towards the umbilicus, and flat, leafy *cotyledons.*

This order is distinguished from CARYOPHY'LLEÆ by the fruit not having a central separate placenta, but bearing the seeds on the inner margin of the valves.—See *Lind. Syn.* and *Don's Gen. Syst. of Gard. and Bot.*



SPIRÆA FILIPÉNDULA COMMON DROPWORT ♃

I.R. Del. Pub.d by W. Baxter, Botanic Garden Oxford 1835. C. Mathews Sc.

SPIRÆ'A*.

Linnean Class and Order. ICOSA'NDRIA†, PENTAGY'NIA‡.

Natural Order. ROSA'CEÆ, Juss. Gen. Pl. p. 334.—Sm. Gr. of Bot. p. 171.—Lindl. Syn. p. 88. Introd. to Nat. Syst. of Bot. p. 81.—Rich. by Macgilliv. p. 528.—Loud. Hort. Brit. p. 512.—ROSALES; sect. ROSIÑÆ; subsect. ROSIAÑÆ; type, SPIRÆACEÆ; subty. SPIRÆIDÆ; Burnett's Outl. of Bot. pp. 614, 683, 699, 706, and 707.—SPIRÆA'CEÆ, Don's Gen. Syst. of Gard. and Bot. v. ii. p. 516.—POMACEÆ of Linnæus.

GEN. CHAR. *Calyx* (figs. 1 & 4.) inferior, of 1 sepal, nearly flat at the base, with 5 acute, permanent, marginal segments. *Corolla* (see fig. 2.) of 5 (sometimes more) roundish or oblong petals, attached by their claws to the rim of the calyx. *Filaments* (see figs. 2 & 3.) more than 20, thread-shaped, wavy, nearly as long as the corolla, attached to the rim of the calyx. *Anthers* (see fig. 2.) roundish, 2-lobed. *Germens* (see fig. 4 & 5.) 5 or more, superior, egg-shaped or oblong, compressed, each terminating in a short *style*. *Stigmas* spreading, blunt. *Capsules* (fig. 5.) as many as the germens, oblong, pointed, more or less compressed, each of 2 rather membranous valves, and 1 cell. *Seeds* from 2 to 6, fixed to the inner suture of the capsule. *Embryo* inverted. *Cotyledons* thickish.

Distinguished from other genera, in the same class and order, by the inferior, 5-cleft, permanent *calyx*, and the 1-celled, 2- to 6-seeded *capsule* of 2 membranous *valves*.

Three species British.

SPIRÆ'A FILIPE'NDULA. Common Dropwort§.

SPEC. CHAR. Stem herbaceous. Leaves interruptedly pinnate. Leaflets uniform, deeply cut and serrated. Flowers cymose, with many styles.

Engl. Bot. t. 284.—Linn. Sp. Pl. p. 702.—Huds. Fl. Angl. (2nd ed.) p. 217.—Sm. Fl. Brit. v. ii. p. 535. Eng. Fl. v. ii. p. 368.—With. (7th ed.) v. iii. p. 609.—Lind. Syn. p. 89.—Hook. Brit. Fl. p. 223.—Lightf. Fl. Scot. v. i. p. 259.—Sibth. Fl. Oxon. p. 157.—Abbot's Fl. Bedf. p. 110.—Purt. Midl. Fl. v. i. p. 238.—Relh. Fl. Cant. (3rd ed.) p. 199.—Hook. Fl. Scot. p. 152.—Grev. Fl. Edin. p. 110.—Fl. Devon. pp. 84 & 173.—Rev. G. E. Smith's Pl. of S. Kent, p. 28.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 521.—Walk. Fl. of Oxf. p. 137.—Perry's Pl. Varvic. Select. p. 43.—Bab. Fl. Bath. p. 14.—*Spiræa vulgaris*, Gray's Nat. Arr. v. ii. p. 588.—*Filipendula*, Ray's Syn. p. 259.—Johnson's Gerarde, p. 1058.

LOCALITIES.—In dry meadows and pastures on a chalky or gravelly soil. Not uncommon.—*Oxfordsh.* Banks of the Canal going to Wolvercot; Burford Downs: Dr. SIBTHORP. In Headington Wick Copse, and between that and Wick House. In a pasture ground close to Headington Copse in considerable abundance, 1831. In meadows between Oddington and the Grange, Aug. 1831. In Stow Wood, plentiful. Abundant in Blenheim Park, but it seldom flowers

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Fig. 1. Calyx.—Fig. 2. Corolla, Stamens, and Pistils.—Fig. 3. A single Stamen.—Fig. 4. Calyx and Pistils.—Fig. 5. Capsules.—Fig. 6. A Germen, a little magnified.—Fig. 7. The Root.

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* Said to be from *speirao*, Gr. to become spiral; in allusion to the fitness of the plants to be twisted into garlands. DON.

† See *Prúnus cérasus*, f. 100, n. †. ‡ See *Py'rus torminális*, f. 111, n. ‡.

§ So called from the manner in which its tuberous roots hang together by threads.

there, being constantly grazed down by the deer: W. B.—Frequent in *Berkshire*, and *Bedfordshire*: Dr. Noeheden and Rev. C. Abbot.—*Cambridgesh.* Girton, Madingley, Moor-Barns, Gogmagog Hills, Triplow, and Newmarket Heath: Rev. R. Relhan.—*Devon*; Cliffs about Torbay: *Fl. Devon.*—*Durham*; At Baydales, and Conniscliffe near Darlington, and in Byer's Quarry-field near Whitburn: N. J. Winch, Esq.—*Essex*; In a field near Chingford Church: Mr. Warner.—*Gloucestersh.* St. Vincent's Rocks, Bristol: Mr. Swayne.—*Huntingtonsh.* Near Ripton: Mr. Woodward.—*Kent*; Upon the chalk south-west of Canterbury, Denton, &c.: Rev. G. E. Smith. Upon Bacon Hill near Faversham: E. Jacob, Esq.—*Norfolk*; On Swaffham Heath: Mr. Crowe.—*Northumberland*; In Crag Close near Barwesford: N. J. Winch, Esq.—*Notts*; In Beeston meadows; on the road-side leading from the sand hills to Radford Church; in several closes near Woollaton old Park; and all over the close where the pond is near Asply Hall: Dr. Deering.—*Somersetsh.* On Lansdown, near Bath: Rev. C. C. Babington.—In *Surrey*: Mr. W. Pamplin, jun.—*Warwicksh.* Near Spernal, and Arrow: Mr. Purton.—Between Marton and Southam: Rev. W. T. Bree, in Mag. of Nat. Hist. v. iii. p. 164. Near the Mill between Rugby and Brownsover, 1831: W. B.—*Wilts*; About Stone Henge: Dr. Withering. Near Great Bedwyn: W. Bartlett, Esq.—*Worcestersh.* Bredon Hill, above Overbury: Mr. Nash. Near Madresfield: Mr. Ballard.—*Yorksh.* Near Malton: L. E. O. in Mag. of Nat. Hist. v. iii. p. 169.—WALES. *Anglesey*; In the parish of Llanbedr, between the church and the Llanerchymedd road: Rev. H. Davies.—SCOTLAND. On the hills south-west of Arthur's-seat: Rev. J. Lightfoot. Debris of Salisbury Craigs: Dr. Greville. On rocky ground between Dundee and Broughty Castle: Mr. Brown.

Perennial.—Flowers in June and July.

Root (see fig. 7.) of numerous black, hard, oval knobs, connected by slender fibres; these knobs or tubercles are blackish on the outside, and white and farinaceous within. *Stems* herbaceous, from 1 to 3 feet high, round, smooth, leafy principally in the lower part, panicled in a cymose manner at the summit. *Leaves* smooth, dark green, mostly from the root, those on the stem alternate, all elegantly pinnate, with oblong, narrow, opposite or alternate leaflets, and as many, or more, small intermediate ones; all deeply, sharply, and unequally cut. *Stipulas* strap-shaped, acute, entire, united laterally to the base of each radical *footstalk*, the stem-leaves being furnished with a pair of rounded, cut lobes in their stead. *Flowers* in forked cymose *panicles*, each on a short, upright partial stalk, without *bracteas*. *Petals* inversely egg-shaped, cream coloured, tinged with red on the outside. *Germens* 10 or more, hairy, with short recurved *styles*, and large blunt *stigmas*, (see fig. 6).

The whole plant is very astringent. Hogs are very fond of the roots; and we are informed by Linnæus, that “ the dried knobs of the roots, beaten or ground into meal, afford no despicable substitute for bread.” It was formerly used in medicine, but is now wholly neglected. A beautiful variety with double flowers is frequently cultivated in gardens.

———— “ Not a flower
But shows some touch in freckle, streak, or stain,
Of His unrivalled pencil. He inspires
Their balmy odours, and imparts their hues,
And bathes their eyes with nectar, and includes,
In grains as countless as the sea-side sands,
The forms, with which He sprinkles all the earth.
Happy who walks with Him! whom what he finds
Of flavour, or of scent in fruit or flower,
Or what he views of beautiful or grand
In Nature, from the broad majestic oak
To the green blade, that twinkles in the sun,
Prompts with remembrance of a present God.
His presence, who made all so fair, perceived,
Makes all still fairer.”—Cowper.

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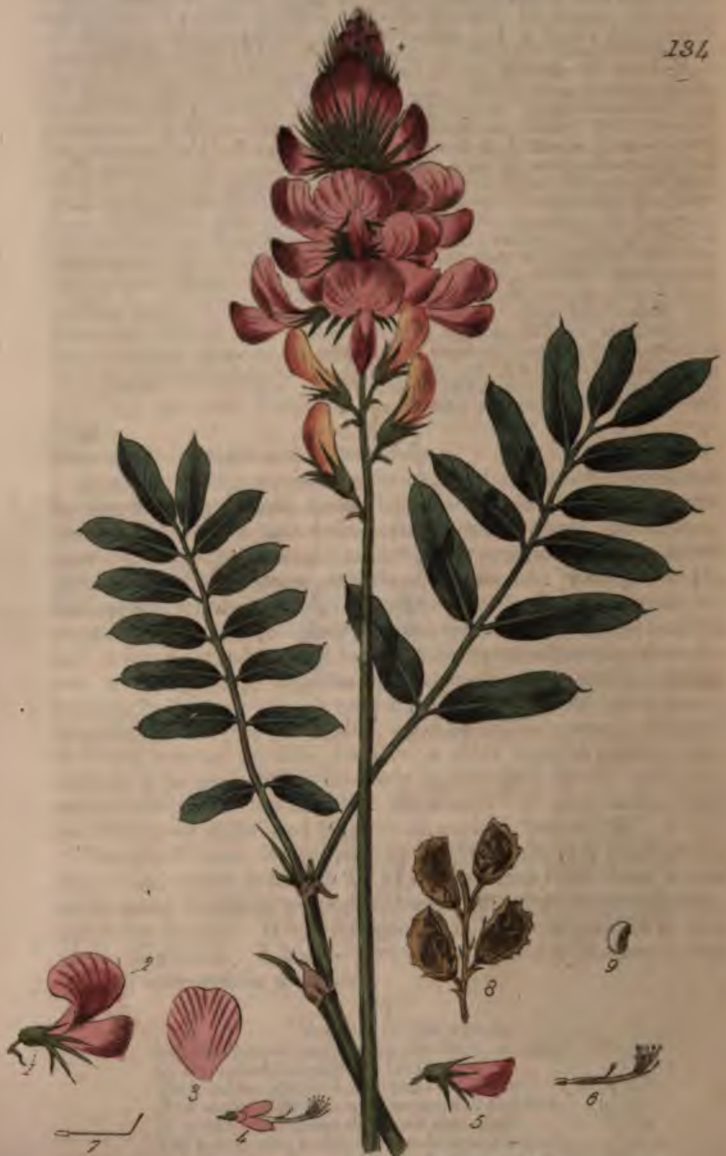

ONÓBRYCHIS SATIVA. *COMMON. SAINT-FOIN.* ♃

I.R.Del. *Pub.d by W. Baxter, Botanic Garden, Oxford, 1835.* *C. Mathews, Sc*

ONO'BRYCHIS*.

Linnean Class and Order. DIADE'LPHIA†, DECA'NDRIA.

Natural Order. LEGUMINO'SÆ, Juss. Gen. Pl. p. 345.—Sm. Gram. of Bot. p. 174.—Lindl. Syn. p. 75. Introd. to Nat. Syst. of Bot. p. 87.—Rich. by Macgilliv. p. 532.—Sm. Engl. Fl. v. iii. p. 259.—Loud. Hort. Brit. p. 509.—PAPILIONA'CEÆ‡, of Linnæus.—ROSALES; sect. CICERINÆ; subsect. LOTIANÆ; type, LOTACEÆ; subty. HEDYSARIDÆ; Burn. Outl. of Bot. pp. 614, 638, 642, & 657.

GEN. CHAR. *Calyx* (see figs. 1 & 5.) inferior, of 1 sepal, tubular, divided half way down into 5 awl-shaped, straight segments, permanent. *Corolla* (fig. 2) butterfly-shaped, of 5 petals; standard (figs. 2 & 3.) egg-oblong, keeled at the back, slightly cloven, reflexed at the sides; wings (fig. 4.) oblong, straight, narrower than the other petals; keel (see figs. 1 & 5.) of 2 united petals, with separate claws, compressed, broader in front, and very abrupt. *Filaments* (figs. 4 & 6.) 10; 9 united into a flattish tube, open above; the tenth awl-shaped, distinct, usually shorter; all hair-like, and bent upwards at the extremity. *Anthers* roundish. *Germen* (see fig. 7.) egg-shaped or oblong, compressed. *Style* (fig. 7.) awl-shaped, curved upwards. *Stigma* simple, pointed, naked. *Legume* (see fig. 8.) sessile, of only one joint, compressed, 1-celled, 1-seeded, indehiscent, coriaceous, prickly, crested or winged; the upper side thick and straight; the lower convex and thinner.

Distinguished from other genera, with diadelphous stamens, in the same class and order, by the very obtuse *keel;* short *wings;* naked *stigma;* and 1-jointed, 1-seeded, compressed, coriaceous, prickly, crested or winged, indehiscent *legume.*

One species British.

ONO'BRYCHIS SATI'VA. Common Saint-foin. Cock's-head.

SPEC. CHAR. Stem upright; stipulas usually distinct; leaflets elliptic-oblong, mucronate, nearly smooth; spikes of flowers elongated; keel of the flower shorter than the standard; wings shorter than the calyx; legumes pubescent, toothed on the back, but having the sides wrinkled, and rather prickly.

Gray's Nat. Arr. v. ii. p. 619.—Lindl. Syn. p. 88.—Hook. Brit. Fl. p. 327.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 302.—Burn. Outl. of Bot. p. 659.—Bab. Fl. Bath. p. 13.—*Hedysarum Onobrychis*, Engl. Bot. t. 96.—Jacq. Fl. Austr. t. 352.—Linn. Sp. Pl. p. 1059.—Huds. Fl. Angl. (2nd ed.) p. 322.—Sm. Fl. Brit. v. ii. p. 778. Engl. Fl. v. iii. p. 292.—With. (7th ed.) v. iii. p. 849.—Mart. Fl. Rust. t. 47.—Sibth. Fl. Oxon. p. 226.—Abbot's Fl. Bedf. p. 160.—Purt. Midl. Fl. v. i. p. 341.—Relh Fl. Cantab. (3rd ed.) p. 296.—Sincl. Hort. Gram. Woburn. p. 325.—Baxter's Lib. of Agricul. and Horticul. Knowledge, (2nd edit.) p. 524.—Curt. Brit. Entom. v. ii. t. 88.—Walk. Fl. of Oxf. p. 211.—Perry's Pl. Varvic. Select. p. 62.—*Onobrychis sue caput gallinaceum*, Ray's Syn. p. 327.—Johnson's Gerarde, p. 1243.

Figs. 1 & 2. Calyx and Corolla.—Fig. 3. The Standard.—Fig. 4. The Stamens and Wings.—Fig. 5. Calyx and Keel.—Fig. 6. Stamens and Pistil.—Fig. 7. Germen, Style, and Stigma.—Fig. 8. Legumes.—Fig. 9. A Seed.

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* From *onos*, Gr. *an ass;* and *brycho*, Gr. *to gnaw*. The *O. sativa* being a favourite food with asses; and it is grateful not only to them but to most other cattle. BURNETT.

† See *Spartium scoparium*, f. 77, n. †. ‡ See *Láthyrus latifolius*, f. 117, n. ‡.

Localities.—On dry chalky hills and open downs, in various parts of England.—*Oxfordsh.* Bullington Green; Stokenchurch Hills; Henley: Dr. Sibthorp. Between Begbrook and Woodstock; Fields near Cheyney Lane; and near Headington Wick Copse: W. B.—*Berks;* Near Childswell Farm; old Stone Pits S. E. of South Hinksey: W. B.—*Bedfordsh.* Barton Hills, and Ford End pastures: Rev. C. Abbot.—*Cambridgesh.* On Gogmagog Hills; Newmarket Heath; and in Chalk-pit Close: Rev. R. Relhan.—*Devon.* About halfway between Teignmouth and Torquay: Dr. Withering.—*Durham;* In fields near Ryhope, and on Hartondown Hill; on the Magnesian Limestone; and in a field at the Salt Meadows near Gateshead: Mr. J. Thornhill, jun. in Winch's Fl. of Northumb. and Durham.—*Gloucestersh,* On the higher grounds of this county, both wild and cultivated: Dr. Withering.—*Herts;* About Royston: Dr. Martyn.—*Norfolk;* About Burnham: Mr. Crowe.—*Somersetsh.* Near the locks on the canal at Combehay, near Bath: Rev. C. C. Babington. Wick Cliffs near Bath: Mr. Swayne.—*Warwicksh,* About Grafton and Bilsley: Mr. Purton.—*Wilts;* On Salisbury Plain: Dr. Martyn.—Near Great Bedwyn: W. Bartlett, Esq.—*Yorksh.* Near Malton.—WALES. *Anglesey;* On a gorsey bank, in a park between Pentraeth and Llanddyfnan: Rev. H. Davies.

Perennial.—Flowers in June and July.

Root somewhat woody, running deep into the ground. *Stems* several, round, striated, 2 or 3 feet long, at first procumbent, but more upright when in flower, smooth, leafy, not much branched. *Stipulæ* in pairs, egg-spear-shaped, terminated by a long point, membranous at the edges, and sometimes fringed with a few hairs. *Leaves* pinnate. *Leaf-stalks* furrowed above, slightly hairy. *Leaflets* 8 or 10 pairs, with an odd one; those of the lower leaves elliptical, of the upper spear-shaped, or strap-spear-shaped, all of them pointed, entire, smooth above, often a little hairy beneath. *Flower-stalks* axillary, slightly hairy, ascending, longer than the leaves, and each bearing a dense tapering *spike* of handsome, variegated, crimson *flowers*, with numerous narrow membranous *bracteas* interspersed. *Calyx* about one-fourth the length of the corolla, with spear-shaped, hairy segments, the two upper of which are distant; the lowermost the shortest. *Standard* of the *Corolla* (fig. 3.) egg-shaped, slightly notched at the end, partly bent back, flesh-coloured, and striated with 8 or 10 deeper coloured lines; *wings* (fig. 4.) very small, not half the length of the calyx, spear-shaped, red and white; *keel* reddish, with deeper coloured lines. *Legume* upright, semi-orbicular, hard, bordered with sharp flat teeth, hairy at the sides, and strongly reticulated with prominent, partly spinous, ribs and veins.

Saint-foin has been long cultivated in France and other parts of the Continent, and as an agricultural plant was introduced from the latter country into England about the middle of the 17th century. It has since been a good deal cultivated in the chalky districts, and its peculiar value is, that it may be grown on soils unfit for being constantly under tillage, and which would yield little if laid down in grass. This is owing to the long and descending roots which will penetrate and thrive in the fissures of rocky or chalky substrata, which other artificial grasses could not reach. The roots of this plant have been known to be from 10 to 17, and even upwards of 20 feet long. Its herbage is said to be equally suited for pasturage or for hay, and that eaten green it is not apt to swell or hove cattle like the clovers or lucern.—Mr. A, Young says, that upon soils proper for this plant, no farmer can sow too much of it; and in *The Code of Agriculture* it is pronounced to be " one of the most valuable herbage plants we owe to the bounty of Providence." The soils best adapted to the growth of this plant, are those which are dry, with a loose subsoil, namely, the several sorts of chalks, hazel moulds, sands, and gravels, on any of which it succeeds very well. The best time for sowing the seed is in February or March; some cultivators sow in April, and sometimes later; but the March sowing is by far the most usual, and undoubtedly the best. See *Baxter's Lib. of Agricul. and Horticul. Knowledge*, and *Don's Gen. Syst. of Gard, and Bot.*

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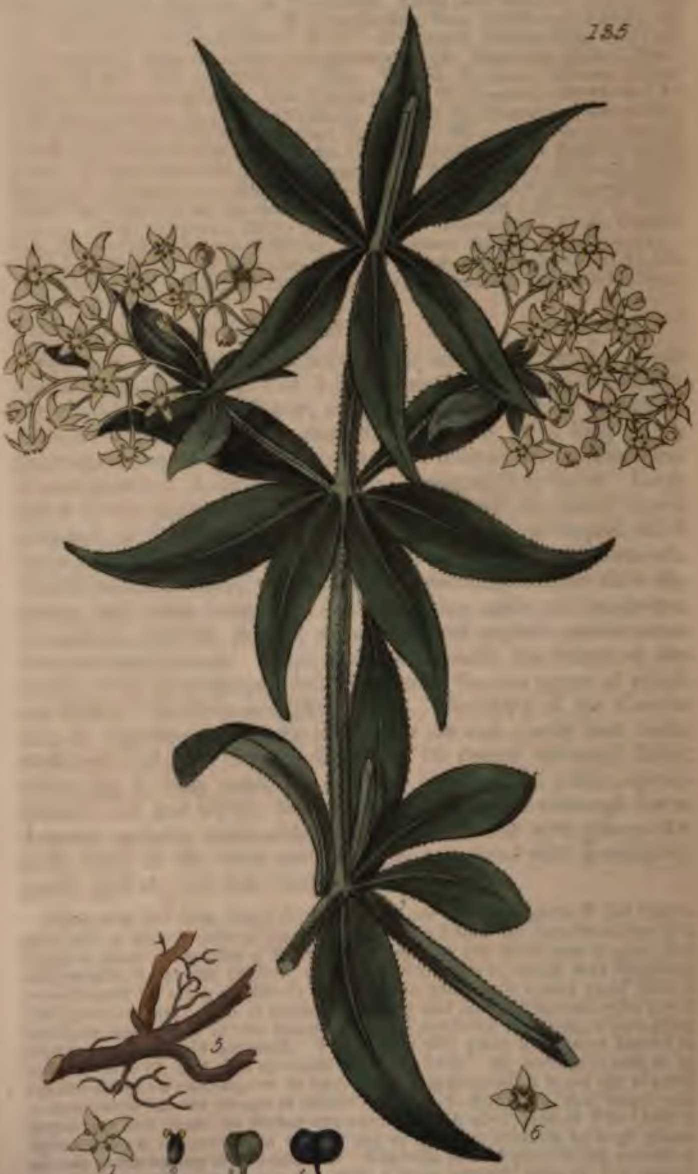

RÚBIA PEREGRINA. *WILD MADDER.♃*

I.R. Del. *Pub.d by W. Baxter, Botanic Garden Oxford 1835* *C. Mathews Sc.*

RU'BIA*.

Linnean Class and Order. Tetra'ndria †, Monogy'nia.

Natural Order. Stellatæ, *Linn.*—Lindl. Syn. p. 128. Intr. to Nat. Syst. of Bot. p. 202.—Rubia'ceæ, Juss. Gen. Pl. p. 196.—Sm. Gram of Bot. p. 126. Engl. Fl. v. i. p. 196.—Rich. by Macgilliv. p. 459.—Loud. Hort. Brit. p. 519.—Syringales; subord. Asterosæ; sect. Rubiacinæ; type, Rubiaceæ; Burn. Outl. of Bot. pp. 900, 901, 902, & 914.

Gen. Char. *Calyx* none, or very small, superior, with 4 teeth. *Corolla* (figs. 1 & 6.) of 1 petal, wheel-shaped or bell-shaped, in 4 or 5 deep segments, without a tube. *Filaments* (see fig. 6.) 4, from the base of the corolla, shorter than its limb, awl-shaped. *Anthers* roundish, of 2 cells. *Germen* (fig. 2.) inferior, of 2 round lobes. *Style* short, deeply cloven. *Stigma* capitate. *Berry* (figs. 3 & 4.) a smooth double globe. *Seeds* solitary, roundish, with a central depression. The *flowers* have, in some instances, 5 segments, and as many *stamens*, (see fig. 1.)

Distinguished from other genera, in the same class and order, by the superior, monopetalous, wheel-shaped or bell-shaped corolla, and pulpy, 2-lobed, 2-seeded *berry*.

One species British.

RU'BIA PEREGRI'NA. Wild Madder.

Spec. Char. Leaves 4, or more, in a whorl, elliptical, smooth, and shining on the upper surface, the margin and keel rough with reflexed prickles. Flower 5-cleft.

Engl. Bot. t. 851.—Linn. Sp. Pl. p. 158.—Huds. Fl. Angl. (2nd ed.) p. 65.—Sm. Fl. Brit. v. i. p. 181. Engl. Fl. v i. p. 211.—With. (7th ed). v. ii. p. 228. Gray's Nat. Arr. v. ii. p. 485.—Lindl. Syn. p. 131.—Hook. Brit. Fl. p. 65.—Davies' Welsh Botanology, p. 15.—Relh. Fl. Cant. (3rd ed.) p. 61.—Fl. Devon. pp. 27 & 163.—Rev. G. E. Smith's Pl. of S. Kent. p. 9.—Curt. Brit. Entomol. v. vii. t. 327.—Mack. Catal. of Pl. of Irel. p. 18.—*Rubia sylvestris aspera, quæ sylvestris Dioscoridis,* Ray's Syn. p. 223.

Localities.—In thickets, and on stony or sandy ground in the south-west of England.—*Cambridgesh.* Crabmarsh, near Wisbeach: Rev. R. Relhan.—*Cumberland;* Near Keswick: Mr. Hutton.—*Devon;* In hedges about Ilsington, Ashburton, Chudleigh, Marychurch, Torquay, Sidmouth, Exmouth, &c. On rocks near the bridge at Bideford on the road between Westleigh and Bideford; and about the neighbourhood of Barnstaple: Dr. Wavell. Near the Devil's Point at Stonehouse, near Plymouth: Mr. E. Forster, jun. About Teignmouth and Exeter: L. W. Dillwyn, Esq. Common in the hedges near Dawlish: Dr. Maton.—*Dorset;* Hedges in Purbeck; and between Whitechurch and Milbourn St. Andrews: Dr. Pulteney. In Portland: Mr. Lambert. At Hod Hill, on the side next the river, in the parish of Stourpain, near Blandford; Wareham on a mud wall; and at Somerpill, near Chapel: Parkinson.—*Gloucestersh.* In Stokes Wood opposite St. Vincent's Rocks, Bristol: Rev. G. Swayne.—*Hampsh.* About Ride in the Isle of Wight. Very plentiful in the under-cliff between Luccomb and Bonchurch: Mr. J. Woods, jun.—*Kent;* On the Cliffs at Dover, east of the caves: L. W. Dillwyn, Esq. About

Figs. 1 & 6. Corolla.—Fig. 2. Germen, Style, and Stigmas.—Figs. 3 & 4. Berries.—Fig. 5. The Root.

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* From *ruber, red;* from the red dye afforded by the species, especially the *Rubia tinctorium,* which produces the true *Madder,* or *Turkey red* of commerce. Dr. Hooker.

† See *Aspérula odoráta,* folio 46, note †.

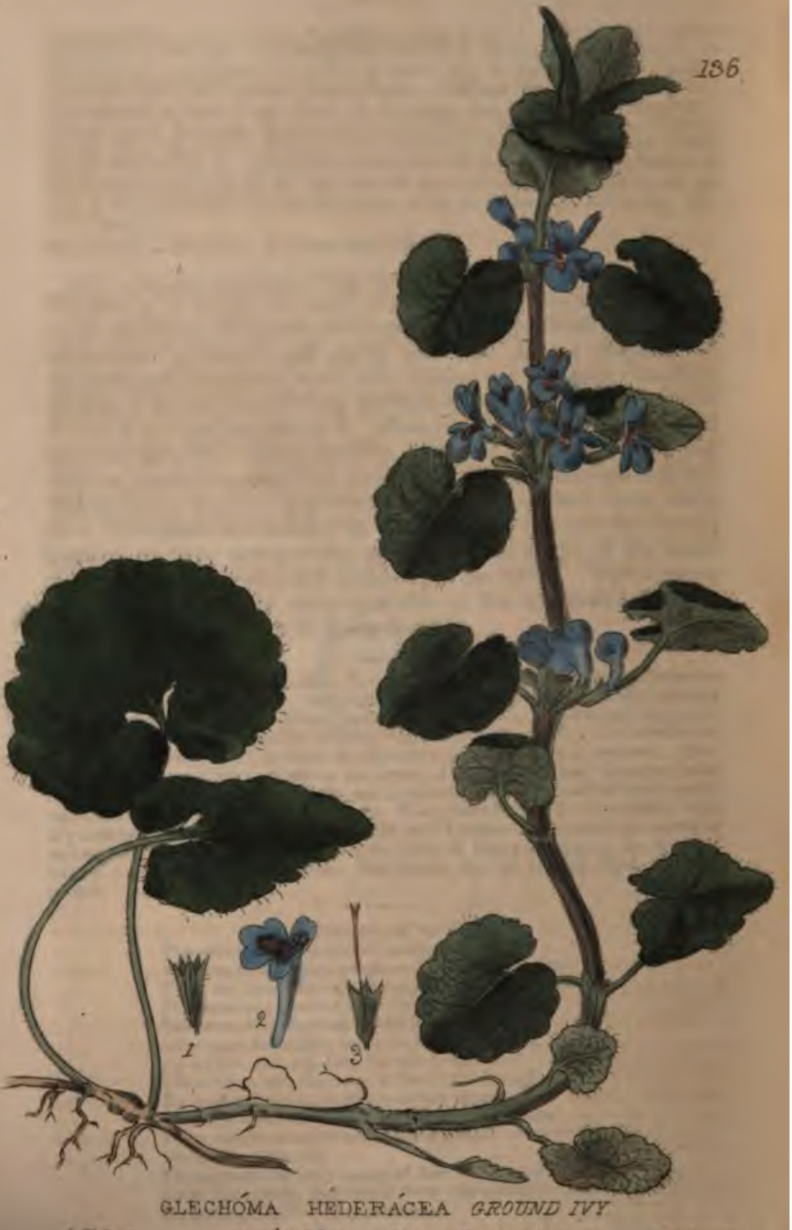
Langdon Bay, and Lydden Spout near Dover: Mr. J. Woods, jun.—*Monmouthsh.* At Persfield near Chepstow: Sir T. G. Cullum.—*Somersetsh.* In Leigh Wood near Bristol; and near Watchet: Mr. E. Forster, jun. Hedges about Dunster: D. Turner, Esq.—*Sussex;* Offham Hanger near Arundel; and above Houghton Chalk Pits: W. Borrer, Esq.—WALES. *Anglesey;* Below the old Park near Beaumares; Carreg Onen: Rev. H. Davies.—*Cardigansh.* Near the Devil's Bridge: Mr. J. Woods, jun.—*Carnarvonsh.* Gloddaeth: Mr. Pennant. Llandidno Rocks; and in the fissures of the Rocks on North side of Penmaen Mawr: Mr. Griffith.—IRELAND. Rocks on Howth and at Killiney Hill; also on limestone rocks at Muckruss, Killarney: Mr. J. T. Mackay.

Perennial.—Flowers in June and July.

Root (fig. 5.) creeping, fleshy and tender, penetrating deeply into the fissures of rocks; its outer coat of a tawny colour. *Stems* several, climbing, 4-angled, the angles set with prickles which point backwards, perennial and partly shrubby. *Leaves* elliptical or spear-shaped, evergreen, even and shining on the upper surface, prickly at the edges and along the mid-rib on the under side, from 3 to 6 in a whorl, but mostly 5. *Flowers* yellowish-green, in forked terminal panicles. *Calyx* wanting. *Corolla* (fig. 1.) concave but shallow, mostly 5-parted, but occasionally 4 or 6. *Germen* smooth. *Berries* juicy, in pairs, black and shining; one of them often abortive. The plant in climbing up the rocks and through the shrubs supports itself by means of the prickles on the angles of the stem, and under the margins and mid-ribs of the leaves. This species is said to possess the same qualities as the Cultivated Madder (*Rubia tinctorium*), but in a less degree.

The *Natural Order* Stellatæ, is composed of dicotyledonous *herbaceous* plants, with whorled *leaves*, without stipulæ: square *stems; roots* staining red; and *flowers* minute. They have a superior, 4-, 5,- or 6-lobed *calyx;* a monopetalous, wheel-shaped or tubular, regular *corolla* (fig. 1.), the number of its divisions being equal to those of the calyx, into which it is inserted. The *stamens* are equal in number to the lobes of the corolla, and alternate with them. The *ovary* (fig. 2.) is simple, and 2-celled; the *ovules* solitary and erect; and the *style* is simple, with 2 *stigmas*. The *fruit* (figs. 3 & 4.) consists of a dry indehiscent pericarpium, with 2 cells and 2 seeds. The *seeds* are upright and solitary; the *embryo* straight in the axis of horny albumen; the *radical* inferior; and the *cotyledons* leafy. See *Lindl. Introd. to Nat. Syst. of Bot.* p. 202.

———"Happier, in my judgment,
The wandering Herbalist, who, clear alike
From vain, and, that worse evil, vexing thoughts,
Casts on these uncouth forms a slight regard
Of transitory interest, and peeps round
For some rare floweret of the hills, or plant
Of craggy fountain; what he hopes for wins,
Or learns, at least, that 'tis not to be won:
Then, keen and eager, as a fine nos'd hound
By soul-engrossing instinct driven along
Through wood or open field, the harmless man
Departs, intent upon his onward quest!
No floweret blooms
Throughout the lofty range of these rough hills,
Or in the woods, that could from him conceal
Its birth-place."—Wordsworth.



GLECHÓMA HEDERÁCEA *GROUND IVY*

J. P. Del *Pubd. by W. Baxter Botanic Garden, Oxford. 1836.* *C. Mathews Sc.*

GLECHO'MA[*].

Linnean Class and Order. DIDYNA'MIA[†], GYMNOSPERMIA[‡].

Natural Order. LABIATÆ[§], Juss. Gen. Pl. p. 110.—Sm. Gram. of Bot. p. 99. Engl. Fl. v. iii. p. 63.—Lindl. Syn. p. 196. Intr. to Nat. Syst. of Bot. p. 239.—Rich. by Macgilliv. p. 439.—Bentham in Bot. Reg. (1829).—Loud. Hort. Brit. p. 528.—SYRINGALES; sect. MENTHINÆ; type, MENTHACEÆ; subty. NEPETIDÆ; Burn. Outl. of Bot. pp. 900, 958, 968, 972, & 973.—VERTICILLATÆ, of Linn.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, tubular, cylindrical, striated, permanent, with 5 unequal, pointed, marginal teeth. *Corolla* (fig. 2.) of 1 petal, ringent; tube slender, compressed; upper lip upright, blunt, cloven nearly half way down; lower lip larger, in 3 spreading, blunt segments, the middle segment broadest and cloven. *Filaments* 4, under the upper lip, two longer than the other two. *Anthers*, before bursting, (see fig. 2.) approaching in pairs, and forming a cross. *Germen* (see fig. 3.) superior, small, 4-cleft. *Style* (see fig. 3.) thread-shaped, curved under the upper lip. *Stigma* in two pointed divisions. *Seeds* 4, egg-shaped, in the bottom of the permanent calyx.

Distinguished from other genera, with a nearly regular 5-toothed calyx, in the same class and order, by the 2-cleft upper lip of the *corolla;* and the *anthers* cohering by pairs in a cross-like manner.

One species British[‖].

GLECHO'MA HEDERA'CEA. Ground-Ivy. Gill. Alehoof. Tunhoof. Cat's-foot.

SPEC. CHAR. Leaves kidney-shaped, crenate.

Engl. Bot. p. 853.—Curt. Fl. Lond. t. 143.—Linn. Sp. Pl. p. 807.—Huds. Fl. Angl. (2nd ed.) p. 254.—Sm. Fl. Brit. v. ii. p. 625. Engl. Fl. v. iii. p. 88.—With. (7th ed.) v. iii. p. 707.—Gray's Nat. Arr. v. ii. p. 374.—Lindl. Syn. p. 199.—Hook. Brit. Fl. p. 278.—Woodv. Med. Bot. v. i. p. 84. t. 28.—Mart. Fl. Rust. t. 61.—Lightf. Fl. Scot. v. i. p. 307.—Sibth. Fl. Oxon. p. 183.—Abbot's Fl. Bedf. p. 128.—Thornton's Fam. Herb. p. 572.—Purt. Midl. Fl. v. i. p. 268.—Relh. Fl. Cantab. (3rd ed.) p. 238.—Hook. Fl. Scot. p. 181.—Grev. Fl. Edin. p. 130.—Fl. Devon. pp. 98 & 144.—Johnst. Fl. of Berw. v. i. p. 131.—Walk. Fl. of Oxf. p. 164.—Curt. Brit. Entom. v. iii. t. 125.—Mack. Catal. of Pl. of Irel. p. 55.—Bab. Fl. Bath. p. 40.—*Calamintha humilior, folio rotundiore*, Ray's Syn. p. 243.—*Hedera terrestris*, Johnson's Gerarde, p. 856.

LOCALITIES.—In dry shady places, under hedges, and by road sides. Common.

Perennial.—Flowers in April and May.

Roots creeping, with long leafy runners. *Stems* numerous, leafy, square, more or less ascending, unbranched, hairy, the hairs bent downwards. *Leaves* opposite, on long footstalks, somewhat kidney-shaped, bluntly crenate, veiny, paler underneath, with numerous

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Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. Germen, Style, and Stigma, with part of the calyx.

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[*] From *gluku*, Gr. *sweet wine;* as affording a pleasant beverage. WITHER.

[†] See *Lamium album*, folio 31, note †.

[‡] See folio 31, note ‡.

[§] See *Ajuga reptans*, folio 94, a.

[‖] It is remarked by Sir J. E. SMITH, in *The English Flora*, that "few perennial herbs vary so much in size; and hence authors have formerly made several species. The extremes may be seen in the plates of RIVINUS and VAILLANT," vol. iii. p. 89.

small resinous dots, which yield an aromatic oil. The bases of the 2 opposite leafstalks are connate, and form a membranous, ciliated ring round each joint of the stem. *Flowers* blue, with a white palate, about 3 together, on short, branching, axillary peduncles. *Bracteas* very small, awl-shaped, at the base of the flower-stalks. Dr. STOKES observes, in "Withering's Botanical Arrangements," that the *stamens* are occasionally imperfect, consisting of filaments only half the usual length, terminated by a reddish blunt point; sometimes they are furnished with anthers, pale brown, containing no pollen, and scarcely broader than the filaments. When the anthers are perfect they form a cross, or the shape of the letter X.

The whole plant is more or less downy, with an agreeable fragrance, and a bitterish taste, somewhat aromatic. It was formerly in considerable estimation, and supposed to possess great medical powers. In obstinate coughs it is still a favourite remedy with the common people; but it is seldom prescribed by medical practitioners, and is wholly discarded from the materia medica of the London College. Mr. RAY gives a remarkable instance of its efficacy in removing a violent and inveterate head-ach by drawing the juice of the plant up the nostrils. The leaves were formerly thrown into the vat with ale, to clarify it, and to give it a flavour; this was called gill-ale; and thus prepared, was often drank as an anti-scorbutic. LINNÆUS informs us, in his *Flora Suecica*, p. 202, that it gradually expels plants which grow near it, and thus impoverishes pastures. It is said to be hurtful to horses, if they eat much of it. According to LINNÆUS, sheep eat it, horses are not fond of it, and it is refused by cows, goats, and swine. The expressed juice, mixed with a little wine, and applied morning and evening, destroys the white specks upon horses' eyes.

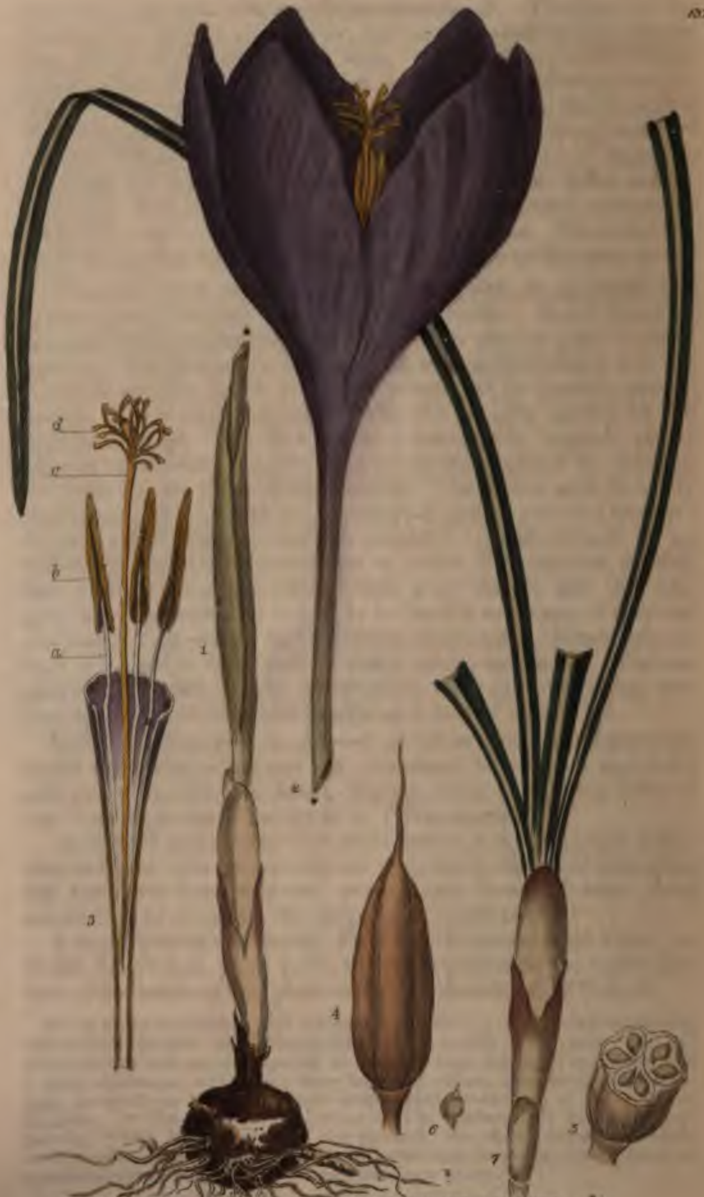
Little protuberances, composed of many cells, are sometimes found upon the leaves, and are occasioned by insects, especially gall-gnats, *Cecidomyiæ*, Latra, *Tipulæ*, Linn. *Phalæna libatrix* and *Cynips glechomæ* live upon it. WITHERING.

Anthidium manicatum, Curt. Brit. Entom. v. ii. t. 61, (*Apis manicata* of Linn.) may occasionally be detected in the act of collecting the *tomentum* from this and other plants furnished with short woolly hair or down, for the purposes of nidification.

A small parasitical fungus, *Puccinia Glechomatis* of LINK, in Willd. Sp. Pl. v. vi. pt. II. p. 71, is not uncommon on the under surface of the leaves of this plant in the neighbourhood of Oxford.

If the Botanical Student will examine the leaves of plants during the Spring and Summer months, he will frequently find, especially on their under surface, many curious and beautiful species of minute *fungi*, which, if examined with a good microscope, will display more beauty of colour, and elegance of form, than many of the larger and more conspicuous productions of the vegetable kingdom. "Those," says the author of *The Naturalist's Poetical Companion*, "who have once tasted the pleasure, that the examination of these *minima* of creation affords, will not be deterred from the pursuit by the laugh of ignorance, or the fastidiousness of pretended superiority."

How sweet to muse upon the skill display'd
(Infinite skill!) in all that HE has made:
To trace in Nature's most minute design
The signature and stamp of Power Divine.—COWPER.



CROCUS NUDIFLORUS. NAKED-FLOWERING CROCUS. ♃

Pub.d by W. Baxter, Botanic Garden, Oxford, 1835.

J. Whessell sc.

CRO'CUS *.

Linnean Class and Order. TRIA'NDRIA †, MONOGY'NIA.

Natural Order. IRIDEÆ ‡. *Dr. R. Brown.*—Lind. Syn. p. 254; Introd. to Nat. Syst. of Bot. p. 260.—Rich. by Macgilliv. p. 408.—Loud. Hort. Brit. p. 137.—IRIDES, Jus. Gen. Pl. p. 57.—Sm. Gr. of Bot. p. 76.—ENSATÆ, *Linn.*—Ker, in Annals of Botany, v. i. p. 219.—MUSALES; sect. NARCISSINÆ; type, IRIDACEÆ; subty. CROCIDÆ; Burn. Outl. of Bot. pp. 137, 441, 450, & 451.

GEN. CHAR. *Calyx* (see fig. 1*.) radical, of 2 unequal, membranous, tubular sheaths, single-flowered. *Corolla (Perianthium)* (fig. 2.) superior; tube (see fig. 2*.) cylindrical, upright, 3 or 4 times the length of the limb, which is regular, in 6 elliptic-oblong, equal segments, 3 of them partly internal. *Filaments* 3, in the mouth of the tube (see fig. 3, a.) shorter than the limb. *Anthers* (see fig. 3, b.) arrow-shaped, upright. *Germen* at the root, inferior, roundish. *Style* (see fig. 3, c.) thread-shaped, very long, rising as high as the stamens. *Stigmas* (see fig. 3, d.) 3, dilated upwards, variously folded, jagged, or many-cleft. *Capsule* (fig. 4.) membranous, of 3 cells, and 3 valves (fig. 5.). *Seeds* (fig. 6.) several, globular.

The inferior *corolla* with a very long, slender tube; a 6-parted, equal, inflated, upright *limb;* and the 3, plaited, many-lobed *stigmas;* will distinguish this from other genera in the same class and order.

Four species British.

CRO'CUS NUDIFLO'RUS. Naked-flowering Crocus.

SPEC. CHAR. Stigma upright, within the flower, in 3 deeply laciniated tufted segments. Flowers unaccompanied by leaves.

Engl. Bot. t. 491.—Sm. Fl. Brit. v. i. p. 41. Engl. Fl. v. i. p. 47.—With. (7th ed.) v. ii. p. 95.—Gray's Nat. Arr. v. ii. p. 195.—Lindl. Syn. p. 255.—Hook. Brit. Fl. p. 17.—Purt Midl. Fl. v. iii. p. 6.—Perry's Pl. Varvic. Selectæ, p. 4.—Walk. Fl. of Oxf. p. 11.—*Crocus speciosus*, Engl. Bot. Suppl. t. 2752.—*Crocus montanus autumnalis*, Johnson's Gerarde, p. 154.—*Colchicum commune*, Deering's Catal. of Plants growing about Nottingham, p. 57.

LOCALITIES.—In sandy inundated meadows. Very rare.—*Lancash.* About a mile and a half from Liverpool, on the road to Allerton: Mr. SHEPHERD, Curator of the Liverpool Botanic Garden. Meadows near Warrington: Mr. WILSON.—*Nottinghamsh.* "In the greatest profusion, between Nottingham Castle and the river Trent, in meadows whose soil is naturally sandy, but from the annual overflowings of the river it is converted into nearly equal parts of sand and clay. There this plant enamels some acres of ground every Autumn, and has been mistaken by strangers for a piece of water." Rev. Mr. BECHER, in Eng. Bot.—*Staffordsh.* At Shut-end, near Dudley: Rev. W. T. BREE. In the second field from the south-east corner of Wolstanton Church-yard, near Newcastle: Oct. 1829, Mr. A. R. BURT, of Chester.—*Warwicksh.* In Pigwell fields and Lammas fields, Warwick: Mr. W. G. PERRY.—*Yorksh.* Pastures near Halifax: Rev. Mr. WOOD.

Figs. 1 & 2. A Plant in flower, showing the Bulb, the membranous, tubular Sheaths, and the Corolla.—Fig. 3. Part of the Tube of the Corolla opened vertically to show the 3 Filaments, a; the Anthers, b; the Style, c; and the deeply-laciniated tufted Stigma, d.—Fig. 4. A Capsule.—Fig. 5. A transverse section of ditto.—Fig. 6. A Seed.—Fig. 7. A Plant in leaf.

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* From *croce*, Gr a *thread* or *filament*, from the appearance of the saffron of the shops, which is the dried stigmas of *Crocus sativus*. Dr. HOOKER.

† See folio 56, note †.

‡ See *Iris Pseud-acorus*, folio 82, a.

Perennial.—Flowers in October.

The *root* is a small, roundish,[§] solid bulb, coated with the remains of the sheathing bases of the leaves of the former season, and sending out long scaly runners. The *leaves* are long, narrow, strap-shaped, and smooth, with a narrow whitish stripe along the middle on the upper surface; keeled, and somewhat revolute on the under. The *flowers* are in perfection early in October, a month or six weeks before the leaves appear, from which circumstance some authors have named this species *Crocus aphyllus*, the *flowers* being perfectly destitute of leaves. The tube of the *corolla* is from 9 inches to a foot long; the limb of a fine deep purple. The *stigma* is enclosed within the flower, it is of a deep orange colour, and its segments are deeply subdivided into from 7 to 12, generally 9, narrow strap-shaped lobes (see fig. 3, d.). The *capsule* is elliptical, and stalked, ripening in May.

I am indebted to the kindness of Mr. A. R. Burt, late of Chester, but now of Reading, Berks, for bulbs of this species of *Crocus*; he dug them up in a field near Wolstanton church-yard, and sent them to the Oxford Botanic Garden in October, 1829, where they have annually flowered, and from one of which the drawing for the accompanying plate was made.

THE HARVEST CROCUS.

" When Ceres with a liberal hand
Her bounty deals around,
And rural Labour's joyful band
Behold their wishes crown'd;

When Flora's gaudier beauties fade!
That bore the bell in Spring,
And Silence holds the sylvan glade
Where Music wont to sing;

When swallows on the house-top meet
In council to prepare
For warmer climes, the voyage fleet
Through distant fields of air;

Meek Flowret then, we greet thy birth,
In yonder sheltered bed,
Where smiling on the lap of earth,
Thou lift'st thy purple head.

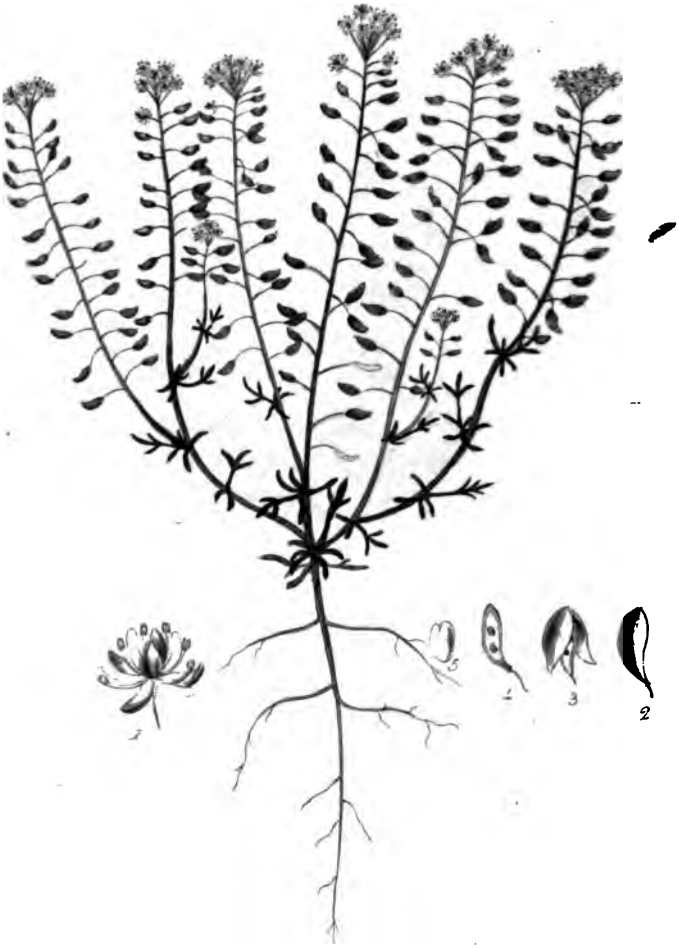
Poor Orphan! no parental leaves
Protect thy infant bloom,
Thee Fortune of that boon bereaves;
They met an early doom!

Thy nakedness with pitying eye
The gentle Cowslip sees,
And spreads her verdant mantle nigh,
To screen thee from the breeze.

Thy vernal sister[‖] sprang to light,
The lengthening day to cheer,
But thou remain'st to charm our sight,
When Winter's gloom draws near."—T. Stott.

[§] Professor Burnett observes, in his *Outlines of Botany*, p. 450, that " the intermediate caudex of the Crocus, which is usually considered as a solid bulb, is rather a rhizoma, from the bottom of which the roots proceed, and upon which the buds are situated; this axis neither lengthens upwards nor downwards to any considerable extent, for the buds separate and the old rhizoma perishes."

[‖] *Crocus Vernus.*



HUTCHINSIA PETRÆA. *ROCK HUTCHINSIA.* ⊙

C. Mathews. Del & Sc. *Pub.^{d} by W. Baxter, Botanic Garden Oxford 1833*

HUTCHI'NSIA[*].

Linnean Class and Order. TETRADYNA'MIA[†], SILICULO'SA[‡].

Natural Order. CRUCIFERÆ[§], Juss. Gen. Pl. p. 237.—Sm. Gram. of Bot. p. 138.—Rich. by Macgilliv. p. 498.—CRUCIFERÆ; subord. PLEURORHI'ZEÆ; tribe, THLASPIDEÆ, or PLEURORHI'ZEÆ ANGUSTISE'PTÆ[||]; Lindl. Syn. pp. 20, 21, & 27.; Introd. to Nat. Syst of Bot. pp. 14 to 18.—Loud. Hort. Brit. pp. 498 & 499; Mag. of Nat. Hist. v. i. p. 143 & 240.—ROSALES; subord. RHŒADOSÆ; tribe, THLASPIDEÆ; Burn. Outl. of Bot. pp. 614, 784, & 857.

GEN. CHAR. *Calyx* equal at the base, of 4 spreading, elliptical, concave, equal, deciduous sepals. *Corolla* of 4, inversely egg-shaped, undivided petals. *Filaments* (see fig. 1.) 6, simple. *Anthers* roundish. *Germen* (see fig. 1.) oval, compressed. *Style* various. *Stigma* blunt. *Pouch (silicula)* (fig. 3.) elliptic-oblong, transversely compressed, nearly entire, of 2 cells; valves (fig. 2.) keel-shaped, not bordered; partition (fig. 4.) narrow, crossing the greater diameter of the pouch. *Seeds* (see fig. 4.) 2, or more, in each cell, pendulous, egg-shaped; cotyledons accumbent.

Distinguished from other genera, with accumbent cotyledons (o=), in the same class and order, by the nearly entire *pouch*, and keeled valves destitute of a border; the 2-seeded *cells;* and simple *filaments.*

One species British.

HUTCHI'NSIA PETRÆ'A. Rock Hutchinsia.

SPEC. CHAR. Leaves pinnate, entire, smooth. Petals scarcely longer than the calyx. Stigma sessile. Pouch blunt at both ends.

Brown, in Aiton's Hortus Kewensis, v. iv. p. 82.—Hook. Fl. Lond. t. 31.—Sm. Eng. Fl. v. iii. p. 168.—Lindl. Syn. p. 28.—Hook. Brit. Fl. p. 296.—Walk. Fl. of Oxf. p. 184.—Don's Gen. Syst. of Gard. and Bot. v. i p. 193.—*Lepidium petræum*, Engl. Bot. t. 111.—Jacq. Fl. Austr. t. 131.—Linn. Sp. Pl. p. 899.—Huds. Fl. Angl. (2nd ed.) p. 280.—Sm. Fl. Brit. v. ii. p 681.—With. (7th ed.) v. iii. p. 757.—Purt. Midl. Fl. v. ii. p. 740.—*Nasturtiolum montanum*, Gray's Nat. Arr. v. ii. p. 692.—*Nasturtiolum montanum annuum tenuissime divisum*, Bobart, in Ray's Syn. p. 304.

LOCALITIES. On limestone rocks, and walls. Rare.—*Derbysh.* In Dovedale: Rev. W. T. BREE.—*Somersetsh.* On the rocks about Goram's Chair, about five miles from Bristol: RICHARD KAYLE, and J. SHERARD. On St. Vincent's Rocks, Bristol: HUDSON, and Dr. JOHN FORD. At Uphill: HUDSON.—*Yorksh* Rocks near the Waterfall at Burton in Bishopdale, Wensley Dale: Mr. BRUNTON.—WALES. *Carnarvonsh.* Walls at Gloddaeth: Rev. H. DAVIES. On rocks and stone fences above Llandudo; not rare: N. J. WINCH, Esq. in Loud. Mag. of Nat. Hist. v. ii. p. 281.—*Denbighsh.* On various parts of the ruins of Castle Dinas Bran, at Llangollen: Mr. W. CHRISTY, jun. in Mag. of Nat. Hist. v. vi. p. 52.—*Glamorgansh.* On the walls of Pennard Castle:

Fig. 1. A separate Flower, shewing the Calyx, Corolla, Stamens, and Germen.—Fig. 2. One of the Valves of the Pouch.—Fig. 3. A Pouch, with the valves separating and shewing the Septum or Partition, and the Seeds.—Fig. 4. The Septum and Seeds, the valves being removed.—Fig. 5. A Seed, with the outer coat taken off to show the accumbent cotyledons. *All magnified.*

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[*] So named, in honour of Miss HUTCHINS, of Belfast: see next page.

[†] See *Draba verna*, f. 38, n. †. [‡] See *Crambe maritima*, f. 107, n. ‡.

[§] See *Draba verna*, f. 38, a. [||] *Angustus*, narrow; *septum*, a *partition*.

L. W. Dillwyn, Esq.—*Pembrokesh.* A weed on the walls at Stockpole: Mr. Milne. On a limestone wall about two miles from Pembroke: Mr. Adams. Tenby: Countess of Aylesford.

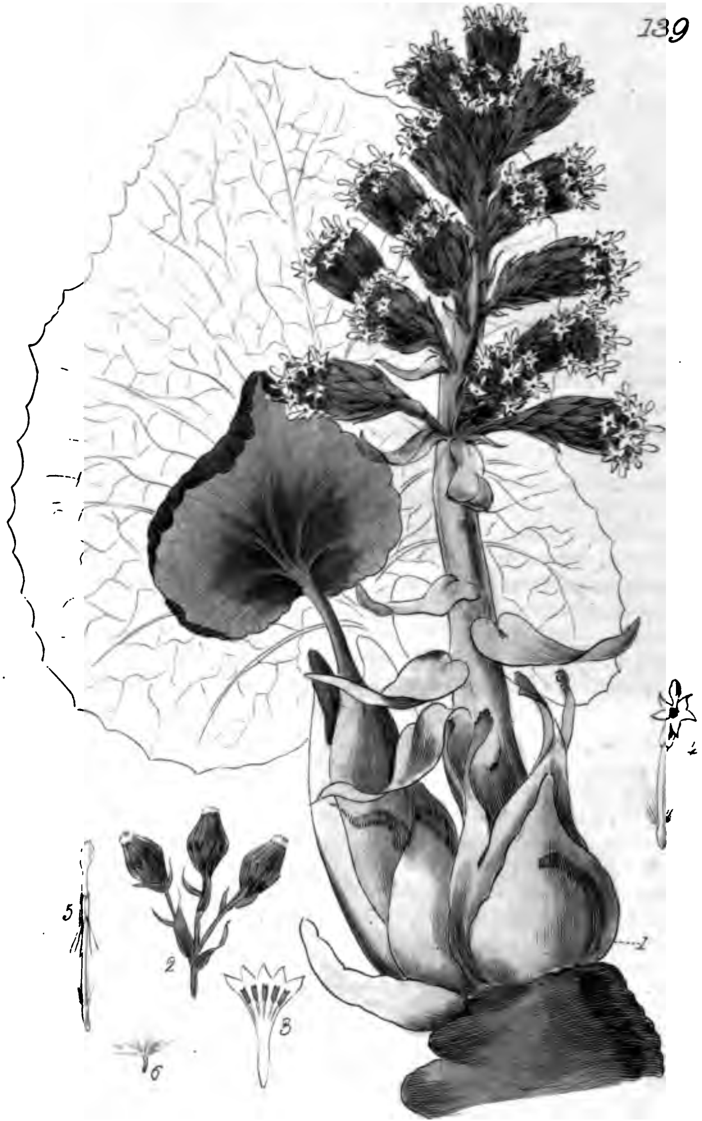
Annual.—Flowers in March and April.

Root fibrous. ***Stems*** one or more, from 2 to 4 inches high, upright, leafy, branched, spreading, smooth, or finely downy. ***Leaves*** dark green, elegantly pinnate, or rather very deeply pinnatifid, with an odd lobe or leaflet. ***Flowers*** white, very minute, in a close corymb, which lengthens out into a bunch or raceme as the fruit ripens. ***Calyx*** and ***Corolla*** spreading. ***Sepals*** egg-shaped, concave. ***Petals*** narrow, about as long as the sepals, generally entire, but sometimes slightly notched at the tip. ***Pouches*** in longish clusters, spreading, egg-shaped, compressed, at first entire, tipped with the sessile ***stigma***, but as they advance to maturity, the point of each valve becomes slightly elongated or dilated, making a small notch to contain the somewhat elevated ***stigma***. ***Seeds*** 2 in each cell.

Sir J. E. Smith observes, " that this plant has the pouch of a *Lepidium*, according to the original idea of that genus, being ' emarginate and many-seeded ;' but the *cotyledons* being accumbent (o=), not incumbent (o||), oblige us to take advantage of the *seeds* not being solitary, as in *Lepidium* better defined, to separate it, along with others whose *seeds* are still more numerous as a distinct, though not very natural, genus. See Hooker and De Candolle." It was designated *Hutchinsia*, by the celebrated Botanist, Dr. R. Brown, in honour of the late Miss Hutchins, whose memory will long be cherished by Botanists, and whose name has also been conferred, by Professor Agardh, on a genus of marine plants; *Conferva ;* see Gray's Nat. Arr. v. i. p. 334.

Miss Hutchins' botanical discoveries in the neighbourhood of Belfast have often been celebrated, and her premature death is deplored by all who knew her. " In her," says Mr. Dawson Turner, in his very beautiful work, *Historia Fucorum*, " Botany has lost a votary, as indefatigable as she was acute, and as successful as she was indefatigable." None but those who had the pleasure of her acquaintance, " can appreciate her many amiable qualities; her liberality, her pleasure in communicating knowledge, her delight in being useful, the rapture she felt in tracing the works of the Divine Hand, and the union in her of those virtues, which embellish and improve mankind."

> " In ev'ry season of the beauteous year
> Her eye was open, and with studious love
> Read the divine Creator in His works.
> Chiefly in thee, sweet Spring, when ev'ry nook
> Some latent beauty to her wakeful search
> Presented, some sweet flow'r, some virtual plant.
> In ev'ry native of the hill and vale
> She found attraction, and where beauty fail'd,
> Applauded odour or commended use."—Hurdis.



PETASITES VULGÁRIS. *COMMON BUTTER-BUR.* ♃

I.R.Del. *Pub.^{d} by W.Baxter. Botanic Garden. Oxford 1835.* *C.Mathews.Sc.*

PETASI'TES[*].

Linnean Class and Order. SYNGENE'SIA[§], POLYGA'MIA, SUPE'RFLUA[‡].

Natural Order. COMPOSITÆ[§]; tribe, CORYMBIFERÆ[||]; *Juss.*—Lindl. Syn. pp. 140 & 142.; Introd. to Nat. Syst. of Bot. pp. 197 & 199.—COMPOSITÆ; subord. JACOBEÆ; Loud. Hort. Brit. pp. 520 & 521.—SYNANTHE'REÆ; tribe, CORYMBIFERÆ; Rich. by Macgilliv. pp. 454 & 455.—CORYMBIFERÆ, sect. 2. Juss. Gen. Pl. pp. 177 & 180.—Sm. Gr. of Bot. pp. 121 & 123. Engl. Fl. v. iii. p. 334.—SYRINGALES; subord. ASTEROSÆ; type, ASTERACEÆ; Burn. Outl. of Bot. pp. 900, 901, & 926.

GEN. CHAR. Nearly *diœceous.* *Involucrum (common calyx)* (see fig. 2.) cylindrical, imbricated with two rows of spear-shaped *scales.* *Corolla* compound, discoid; *florets* (figs. 3 & 4.) all tubular, with 5, rarely but 4, equal segments. *Filaments* (see fig. 3.) 5, very short. *Anthers* (see fig. 5.) united into a cylindrical tube. *Germen* (see figs. 4 & 5.) inversely egg-shaped, often imperfect. *Style* (see fig. 5.) thread-shaped. *Stigmas* (see figs. 4 & 5.) 2, prominent, strap-shaped when perfect, thick and short when abortive. *Seed-vessel* none, except the hardly altered, finally reflexed calyx. *Seed* oblong, compressed. *Down (pappus)* (fig. 6.) simple, sessile. *Scape* many-flowered.

Distinguished from *Tussilago* (see folio 91.) by the discoid *corolla,* and many-flowered *scape.*

One species British.

PETASI'TES VULGA'RIS. Common Butter-bur[¶]. Pestilent Wort[**].

SPEC. CHAR. Panicle dense, egg-oblong. Leaves heart-shaped, unequally toothed, 3-ribbed at the base, the lobes approximating, downy beneath.

Parkinson's Theatrum Botanicum, p. 419.—Gray's Nat. Arr. v. ii. p. 473.—Hook. Brit. Fl. p. 359.—Bab. Fl. Bath. p. 25.—*Tussilago Petasites,* Eng. Bot. t. 431.—Curt. Fl. Lond. t. 134.—Linn. Sp. Pl. p. 1215.—Huds. Fl. Angl. (2nd ed.) p. 364.—Sm. Fl. Brit. v. ii. p. 880. Engl. Fl. v. iii. p. 425.—With. (7th ed.) v. iii. p. 934.—Lind. Syn. p. 147.—Lightf. Fl. Scot. v. i. p. 477.—Sibth. Fl. Oxon. p. 261.—Abbot's Fl. Bedf. p. 181.—Purt. Midl. Fl. v. ii. p. 408.—Relh. Fl. Cant. (3rd ed.) p. 340.—Hook. Fl. Scot. p. 242.—Grev. Fl. Edin. p. 177.—Fl. Devon. pp. 138 & 159.—Rev. G. E. Smith's Pl. of S. Kent, p. 47.—Walk. Fl. Oxf. p. 239.—Mack. Catal. of Pl. of Irel. p. 73.—*Petasites,* Ray's Syn. p. 179.—Johnson's Gerarde, p. 841.—Var. β. *T. Petasites fœmina,* Hook. Fl. Lond. t. 129.—*T. hybrida,* Eng. Bot. t. 430.—Linn. Sp. Pl. p. 1214.—Huds. Fl. Angl. (2nd ed.) p. 364.—Sm. Fl. Brit. v. ii. p. 879.—Lightf. Fl. Scot. v. i. p. 476.—Purt. Midl. Fl. v. ii. p. 408. and v. iii. p. 376.—Perry's Pl. Varvic.

Fig. 1. *Petasites vulgaris,* Var. *a.*—Fig. 2. Three Flowers of Var. *β.*—Fig. 3. A separate Floret, opened vertically to shew the stamens.—Fig. 4. A separate Floret, shewing the germen and pappus.—Fig. 5. The Stamens, Germen, Style, and Stigma.—Fig. 6. Seed and Pappus.

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[*] From *petasos,* Gr. *a covering to the head,* or an *umbrella;* from the great size of its foliage: Dr. HOOKER.

[†] See *Tussilágo fárfara,* f. 91. n. †. [‡] See *Achillea Ptarmica,* f. 36. n. ‡.

[§] See *Prenánthes muralis,* f. 27, a. [||] See *Achillea Ptarmica,* f. 36, a.

[¶] From the leaves being used formerly to wrap up butter in.

[**] From its supposed efficacy in the plague.

Selectæ, p. 70.—*Petasites major, floribus pediculus longis insidentibus,* Dill. in Ray's Syn. p. 179. Hortus Elthamensis, p. 309. t. 230.

Localities.—In moist meadows, and copses, and on the banks of rivers and wet ditches. Not uncommon. Variety β occurs in the same places, but is more rare.—*Cheshire;* Near Stockport: Mr. G. Holme.—Cheshire side of the Tame below Staley Bridge: Mr. Bradbury.—*Durham;* On the banks of the Derwent, at Derwent-haugh: N. J. Winch, Esq. Near Darlington: Mr. E. Robson.—*Lancash.* Very common about Manchester; the banks of the Irwell are crowded with it: Mr. Caley.—*Leicestersh.* Dishley-Mill, near Loughborough: Dr. Arnold. About Leicester, nearly as common as variety *a*: Dr. Pulteney. Woolsthorpe: Rev. G. Crabbe.—*Lincolnsh.* Grantham: Rev. G. Crabbe. Horncastle, and Hemingby: Rev. R. Relhan.—*Northumberland;* Banks of the Tyne at the foot of Scott's Wood Dene; in Walbottle Dene, and near Haltwhistle: N. J. Winch, Esq.—*Notts;* Plentiful in the Mill-yard at Lenton in the road to Woollaton Hall: Dr. Deering.—*Warwicksh.* On a willow bed at Hoo-mill; and on the side of the Avon at Bidford Grange: T. Purton, Esq.—*Yorksh.* Near the river Wherf between Ilkley and Skipton: Teesdale. Near Leeds, plentifully: Rev. W. Wood. Banks of Ure, &c. Ripon: Mr. Brunton. Near Sleningford; also Magdalene Banks near Tanfield: Rev. J. Dalton.

Perennial.—Flowers in April.

Root thick and fleshy, creeping extensively, and sending down numerous long fibres, which are thickest towards the extremity. The *leaves* come after the flowers, and are the largest of any British plant, being, when full grown, nearly a yard in diameter; they are all radicle, and stand on thick, upright *foot-stalks;* they are of a rounded heart-shaped figure, cut away at the base close to the lateral ribs, doubly or unequally toothed along the margin; yellowish-green above; downy, not very white, beneath. *Flower-stalk (scape)* stout, hollow, clothed with concave tumid *foot-stalks,* bearing rudiments of leaves in their lower half, which gradually become spear-shaped *bracteas* above. *Flowers* pinkish, in a dense egg-shaped, or oblong, panicle, constituting a true *thyrsus,* (which in variety β becomes very much elongated after flowering, and, when in seed, making a very elegant appearance). *Some* plants have all the *florets* with perfect *germens,* in which case the stigma is deeply cleft and strap-shaped, and the anthers are imperfect and not united; *others* have imperfect germens, when the *stigma* is very much incrassated and egg-shaped, tuberculated, and very slightly notched, whilst at the same time the anthers are perfect, united or syngenesious, purple, with white *pollen.* The *former,* with the perfect germens, producing *no seed,* have almost universally gone by the name of *Tussilago hybrida* (see fig. 2.); and the latter by that of *T. Petasites* (see fig. 1.). As these plants frequently grow separate, the fruit is rare; but nature has made ample amends, and by the long creeping roots this species is multiplied, and proves very destructive to pasture lands.

The roots abound with a resinous matter. They have a strong smell, and a bitterish acrid taste, and were formerly used as a remedy in pestilential fevers, but are neglected in modern practice. Horses, cows, goats, and sheep, eat this plant; and its large leaves afford shelter from showers to poultry and other small animals. The early flowering of this plant induces the Swedish farmers to plant it near their bee-hives; but as it encreases very fast by its large horizontal roots, which run deep into the ground, it is very difficult to extirpate, and, on that account, is one of the worst of plants to introduce into a garden. Mr. Curtis informs us, that a piece of Butter-bur root only two inches long, and the thickness of the little finger, after having been planted 18 months, was dug up, when it appeared that many shoots had extended six feet, and penetrated two feet in depth; the whole, washed from the surrounding dirt, weighed eight pounds. See *Sm. Eng. Fl.; With. Bot. Arr.;* and *Hook. Brit. Fl.*

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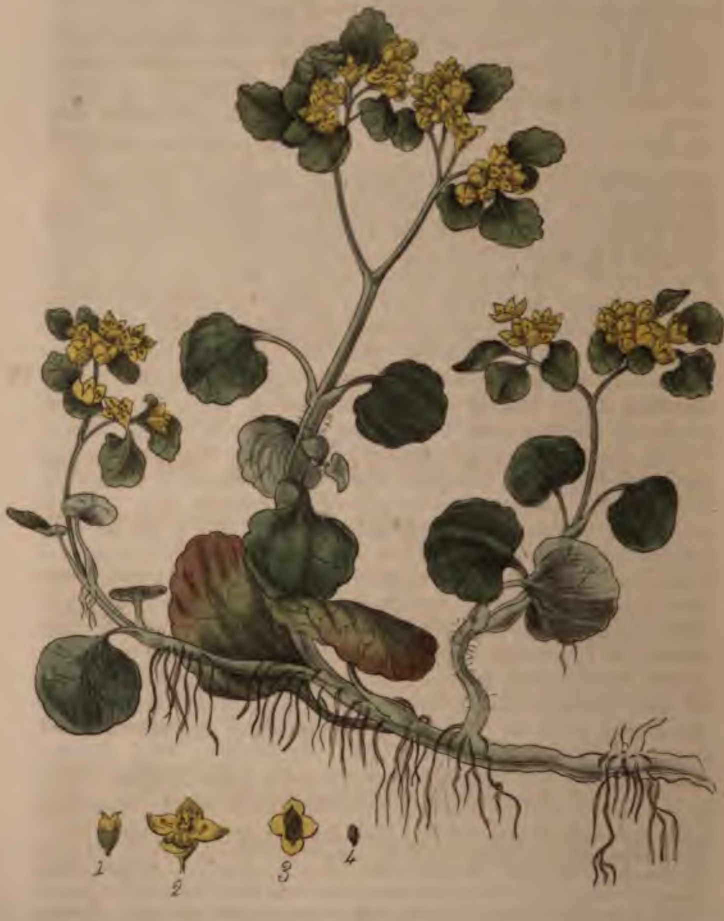

CHRYSOSPLÉNIUM OPPOSITIFÓLIUM. *COMMON GOLDEN-SAXIFRAGE* ♃

R. del. *Pub.d by W. Baxter, Botanic Garden, Oxford. 1835.* C. Mathe

CHRYSOSPLE'NIUM*.

Linnean Class and Order. DECA'NDRIA, DIGY'NIA.

Natural Order. SAXIFRA'GEÆ, *Dec.*—Lindl. Syn. p. 66; Introd. to Nat. Syst. of Bot. p. 49.—Rich. by Macgilliv. p. 511.—Loud. Hort. Brit. p. 517.—SAXIFRAGÆ, Juss. Gen. Pl. p. 308.—Sm. Gram. of Bot. p. 163.—ROSALES; sect. CRASSULINÆ; type, SAXIFRAGACEÆ; subty. HEUCHERIDÆ; Burn. Outl. of Bot. pp. 614, 730, 733, & 734.—SUCCULENTÆ, *Linn.*

GEN. CHAR. *Calyx* (see fig. 2.) superior, of 1 sepal, in 4 or 5 deep, unequal, spreading, permanent, internally coloured, segments; the opposite ones the narrowest. *Corolla* none. *Filaments* (see fig. 2.) 8 or 10, awl-shaped, upright, very short, from the mouth of the calyx. *Anthers* roundish, 2-lobed. *Germen* (fig. 1.) inferior, roundish; prominent at the summit. *Styles* (fig. 1.) 2, awl-shaped, spreading, the length of the stamens. *Stigmas* obtuse. *Capsule* (fig. 3.) of 1 cell, and 2 valves, beaked with the permanent styles, and surrounded with the calyx turned green. *Seeds* (fig. 4.) roundish, numerous, small.

Distinguished from other genera, in the same class and order, by the 4- or 5-cleft, somewhat coloured, superior *calyx;* the want of a *corolla;* and the 2-beaked, many-seeded *capsule,*

The terminal flower, being generally 5-cleft, with 10 stamens, regulates the class, as in *Adoxa,* folio 42.

Two species British.

CHRYSOSPLE'NIUM OPPOSITIFO'LIUM. Common Golden-Saxifrage.

SPEC. CHAR. Leaves opposite, roundish-heart-shaped, crenated. Flowering-stem upright; flowers corymbose.

Engl. Bot. t. 490.—Curt. Fl. Lond. t. 138.—Linn. Sp. Pl. p. 569.—Huds. Fl. Angl. (2nd edit.) p. 178.—Sm. Fl. Brit. v. ii. p. 448. Engl. Fl. v. ii. p. 260.—With. (7th ed.) v. ii. p. 527.—Gray's Nat. Arr. v. ii. p. 537.—Lindl. Syn. p. 67.—Hook. Brit. Fl. p. 190.—Lightf. Fl. Scot. v. i. p. 220.—Sibth. Fl. Oxon. p. 137.—Abbot's Fl. Bedf. p. 93.—Purt. Midl. Fl. v. i. p. 210.—Hook. Fl. Scot. p. 128.—Grev. Fl. Edin. p. 93.—Fl. Devon. pp. 71 & 168.—Johnston's Fl. of Berwick, v. i. p. 94.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 227.—Walk. Fl. of Oxf. p. 119.—Perry's Pl. Varvic. Selectæ, p. 38.—Bab. Fl. Bath. p. 19.—Mack. Catal. of Pl. of Irel. p. 40.—*Saxifraga aurea,* Ray's Syn. p. 158.—Johnson's Gerarde, p. 841.

LOCALITIES.—In watery shady places, and by the sides of rivulets. Not uncommon.—*Oxfordsh.* On Shotover Hill, near the Spring; Shotover Plantations: Dr. SIBTHORP. Abundant in an old fish-pond in Shotover Plantations, a little below the Ochre Pits; May 10, 1835. Also in a wet ditch between the Ochre Pits and the Plantations: W. B. In Horspath Lane: Rev. R. WALKER, B. D.—*Bedfordsh.* At Evershott: Rev. C. ABBOT.—*Devon;* In wet, shady,

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Fig. 1. Germen and Styles.—Fig. 2. A Flower, a little magnified, shewing the 8 Stamens and 2 Pistils.—Fig. 3. Capsule and permanent Calyx.—Fig 4. A Seed.

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* From *chrysos,* Gr. *gold;* and *splen,* Gr. *the spleen;* in reference to the golden colour of the flowers, and the supposed virtue of the plant in diseases of the spleen. DON.

† See *Saponaria officinales,* folio 37, note †.

and boggy situations; common: Fl. Devon.—*Durham*: In watery places in woods: N. J. Winch, Esq.—*Essex*; Common about Woodford, in moist woods, and near springs: Mr. Warner—*Gloucestersh.* Common about the lanes and streamlets near Painswick: Mr. O. Roberts.—*Hants*; In dark and rocky hollow lanes about Selborne: Rev. G. White.—*Kent*; In Jud's Wood, near Feversham: Mr. Jacob. Abundant in the boggy parts of Charlton Wood: Mr. W. Curtis.—*Lancash.* Moist heaths about Manchester: Mr. Caley. About Gateacre, near Liverpool: Dr. Bostock.—*Leicestersh.* Near Groby Pool: Rev. A. Bloxham, in Mag. Nat. Hist. v. iii. p. 167.—*Notts*; In a ditch on the left hand side of Woodlane, coming from Nottingham, in a close called the Boycroft; also in a ditch on the left hand going from St. Anne's Well through the lower coppice: Dr. Deering.—*Norfolk*; Copse on Poringland Heath, near Norwich: Mr. Pitchford.—*Somersetsh.* In damp places at St. Catherine, Batheaston, Lyncombe, Langridge, &c.: Rev. C. C. Babington.—*Surrey*: In moist copses between Shalford and St. Martha's Chapel: Rev. S. Palmer, in Mag. of Nat. Hist. v. ii. p. 266.—*Warwicksh.* Sambourne; and Great Alne: Mr. Purton. Crackley Wood, near Kenilworth. A short distance up the rivulet which crosses the Kenilworth road about half a mile from Leek Wootton: Mr. W. G. Perry.—*Wilts*; Near Great Bedwyn: W. Bartlett, Esq.—*Worcestersh.* Abundant in the shallow plashy rills on the Malvern Hills: Mr. E. Lees, in Mag. of Nat. Hist. v. iii. p. 161.—*Yorksh.* Wood near Richmond: L. E. O. in Mag. of Nat. Hist. v. iii. p. 169.—*Berwick*; Sea-banks beyond the sandy Beds: Thompson. Ord Mill, &c.: Dr. Johnston.—WALES. In the *Isle of Anglesey*; Rev. H. Davies.—*Brecknocksh.* Near Penpont; and about Llangoed, plentiful: H. Woollcombe, Esq. Ch. Ch.—SCOTLAND. In boggy and shady places; also in springy places on the mountains; common: Lightfoot, Hooker, and Greville.—IRELAND. Margins of clear springs in shady places; common: Mr. J. T. Mackay.

Perennial.—Flowers in April and May.

Roots fibrous, creeping. *Stems* angular, somewhat succulent, upright, about four inches high, beset with a few stiffish hairs; branched and forked at the top. *Leaves* all opposite, on footstalks, spreading, of a roundish or kidney-shaped figure, with a few white stiffish hairs on the upper surface, crenate, somewhat fleshy, of a yellowish-green colour, lighter underneath. *Flowers* bright yellow, in a terminal, leafy corymb; small, mostly 4-cleft and octandrous.

Professor Burnett observes, (Outlines of Botany, p. 735), that *Chrysosplenium* was once famed for its supposed influence over melancholy, and other presumed diseases of the spleen. It is said to be both aperient and diuretic, but not very powerfully so, as would seem to be shewn from its common use as a salad in the Vosges, where it is freely eaten under the name of *Cresson de Roche.*

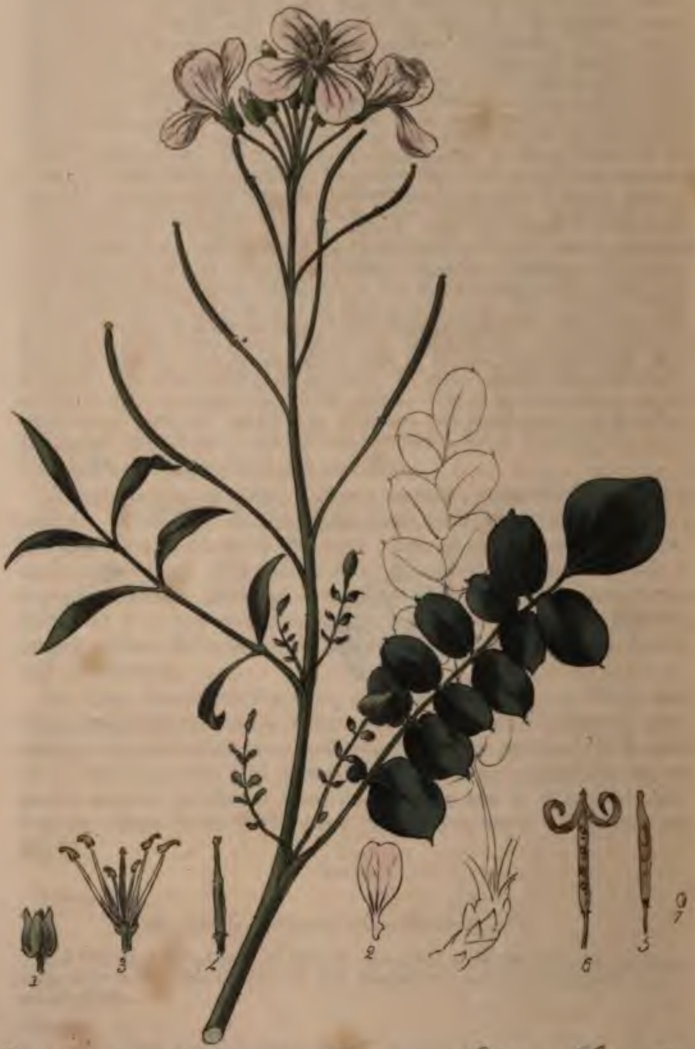
Cowper says,

> "The spleen is seldom felt where Flora reigns."

And Dr. Cullen informs us that he has cured weak stomachs by engaging the persons in the study of Botany, and particularly in the investigation of our native plants.

Then,

> ——————— "At early morn
> Court the fresh air, explore the heaths and woods,
> And, leaving it to others to foretell,
> By calculations sage, the ebb and flow
> Of tides; and, when the moon will be eclipsed,
> Do you, for your own benefit, construct
> A calendar of flowers, plucked as they blow
> Where health abides, and cheerfulness and peace."



Cardamine pratensis. Common Ladies' Smock. 4

R. Mathews Del. & Sc.

Pubd. by W. Baxter, Botanic Garden. Oxford. 1835.

CARDAMINE*.

Linnean Class and Order. TETRADYNA'MIA †, SILIQUO'SA ‡.

Natural Order. CRUCI'FERÆ §, Juss. Gen. Pl. p. 237.—Sm. Gram. of Bot. p. 138. Eng. Fl. v. iii. p. 153.—Rich. by Macgilliv. p. 498.—CRUCI'FERÆ; subord. PLEURORHI'ZEÆ ||; tribe, ARABIDEÆ, Lindl. Syn. pp. 20 & 22. Introd. to Nat. Syst. of Bot. pp. 14 to 18.—Loud. Hort. Brit. pp. 498 & 499; and Mag. of Nat. Hist. v. i. pp. 143 & 239.—ROSALES; subord. RHŒADOSÆ; sect. RHÆADINÆ; type, BRASSICACEÆ; subtype, ARABIDÆ; Burn. Outl. of Bot. pp. 614, 784, 847, 854, & 856.—SILIQUOSÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 4 egg-oblong, blunt, slightly spreading, deciduous sepals, 2 of them protuberent, in some degree, below their insertion. *Corolla* cruciform, of 4 inversely egg-shaped, rather upright, undivided petals (fig. 2), tapering at the base into short claws. *Filaments* (fig. 3.) 6, awl-shaped, simple, the 2 shortest with a gland at the base, next the calyx. *Anthers* small, oblong-heart-shaped, acute, recurved. *Germen* (fig. 4.) strap-shaped, slender. *Style* (see fig. 4.) scarcely any. *Stigma* blunt, entire. *Pod (siliqua)* (fig. 5.) sessile, upright, strap-shaped, compressed laterally; valves (see fig. 6.) 2, flat, without ribs, scarcely narrower than the bordered partition, bursting elastically from the base, and mostly revolute, (see fig. 6). *Seeds* (fig. 7.) egg-shaped, not bordered, inserted alternately in a single row; umbilical cord slender. *Cotyledons* accumbent, o=.

The linear (strap-shaped) *pod;* flat, nerveless *valves*, usually separating with elasticity; and the *seeds* with a slender umbilical cord; will distinguish this from other genera in the same class and order.

Five species British.

CARDAMINE PRATENSIS. Meadow Ladies'-smock. Cuckoo-flower.

SPEC. CHAR. Leaves pinnate; leaflets of the radical ones roundish; of the stem ones strap-shaped or spear-shaped, entire. Style straight; stigma capitate.

Engl. Bot. t. 776.—Curt. Fl. Lond. t. 175.—Linn. Sp. Pl. p. 915.—Huds. Fl. Angl. (2nd ed.) p. 294.—Sm. Fl. Brit. v. ii. p. 699. Engl. Fl. v. iii. p. 189.—With. (7th ed.) v. iii. p. 768.—Gray's Nat. Arr. v. ii. p. 674.—Lindl. Syn. p. 25.—Hook. Brit. Fl. p. 302.—Mart. Fl. Rust. t. 95.—Woodv. Med. Bot. v. i. p. 89. t. 30.—Lightf. Fl. Scot. v. i. p. 349.—Sibth. Fl. Oxon. p. 205.—Abbot's Fl. Bedf. p. 142.—Purt. Midl. Fl. v. i. p. 301.—Relh. Fl. Cantab. (3rd ed.) p. 265.—Hook. Fl. Scot. p. 198.—Grev. Fl. Edin. p. 142.—Fl. Devon. pp. 110 & 188.—Johnst. Fl. Berw. v. i. p. 143.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 168.—Walk. Fl. of Oxf. p. 187.—Bab. Fl. Bath. p. 4.—Mack. Catal. of Pl. of Irel. p. 61.—*Cardamine*, Ray's Syn. p. 299.—Johnson's Gerarde, p. 259.

Fig. 1. Calyx.—Fig. 2. A Petal.—Fig. 3. Stamens and Pistil.—Fig. 4. Germen, Style, and Stigma.—Fig. 5. Pod, or Siliqua.—Fig. 6. The same, with the 2 valves separating from the base, and rolling upwards.—Fig. 7. A Seed.

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* From *kardia*, Gr. *the heart;* and *damao*, Gr. *to subdue;* from its pungent acrimony; or perhaps diminished from *kardamon*, Gr. *water-cress;* its taste being similar. DON.

† See *Draba verna*, f. 38.

‡ See *Erysimum cheiranthoides*, f. 62.

§ See *Draba verna*, folio 38, a.

|| ***Pleuron***, a side; and *rhiza*, a root; radicle at the side of the cotyledons. LOUDON.

LOCALITIES.—In meadows and moist places.—Very common.

Perennial.—Flowers in April and May.

Root thickish, white, somewhat toothed, and furnished with numerous fibres. *Stem* from 9 inches to a foot or more high, upright, round, smooth, leafy, simple. *Stem-leaves* several, on long stalks, each composed of 1 or more pairs of roundish, or heart-shaped *leaflets*, which are toothed, or cut into several irregular unequal angles; *stem-leaves* of more numerous, and much narrower, *leaflets*, which are in general strap-shaped, or spear-shaped, entire, and smooth; the odd or terminal leaflets in all are the largest. *Flowers* produced in a corymbose manner at the top of the stem, each on a smooth, naked peduncle. *Corolla* large and handsome, either light purple, flesh-coloured, or white. *Petals* inversely egg-shaped, with a tooth or notch on the claw; (see fig. 2). *Anthers* yellow. *Stigma* capitate.

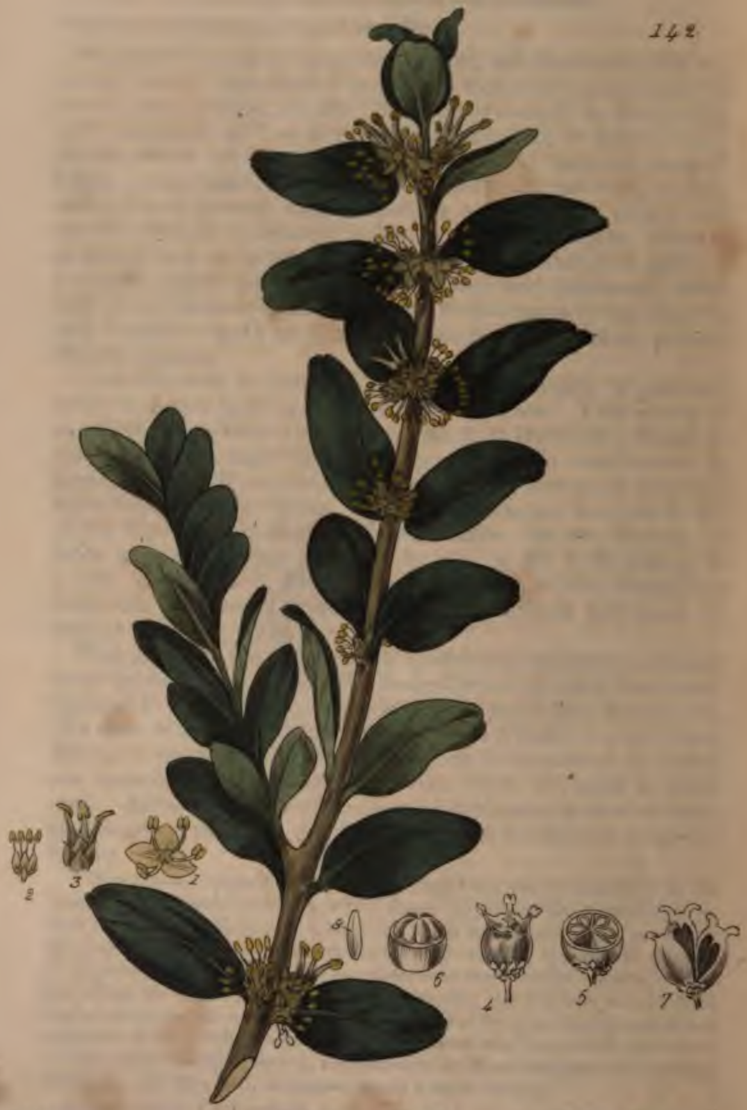
A variety with a double flower is not uncommon in gardens, where it thrives best in a moist shady situation. This variety is sometimes met with in a wild state. Mr. E. B. HEWLETT, Nurseryman, of Oxford, found several plants of it near a small rivulet in Bagley Wood. It has also been found, by Mr. AIKIN, in meadows about Ross Hall, near Salop. By Dr. WITHERING, in a field S. W. of the Tap-house at Hagley, Worcestershire. By Mr. WINCH, in fields near the vicarage at Keswick; and by Mr. F. RUSSELL, in a lane at Brookfield, Bitton, near Teignmouth.—The leaflets are frequently viviparous, producing new plants when they come in contact with the ground.

This plant has the same sensible qualities as water-cress, though in an inferior degree to it. The flowers, recent or dried, have been reported to cure Epilepsy, but unhappily do not deserve such credit. The dose of the powdered flowers is from a dram to two drams. The juice expressed from the whole plant is considered an excellent antiscorbutic in northern countries, where salt meat is much used. According to the observations of LINNÆUS, goats and sheep eat this plant, cows are not fond of it, and horses and swine refuse it.

"This flower," observes Miss KENT, "has been usually described by the Poets as of a silvery whiteness, which shows the season they have chosen for their rural walks to have been a late one; as, in its natural state, it is more or less tinged with purple, but becomes white as it fades, by exposure to the heat of the sun."—The flowers appear about the same time with the Cuckoo, whence it is called the *Cuckoo flower;* and their covering the meadows as with linen spread out to bleach, is supposed to be the origin of the other English name, now extended to the whole genus.—"They are associated," says Sir J. E. SMITH, "with pleasant ideas of Spring, and join with the White Saxifrage, the Cowslip, Primrose, and Hare-bell, to compose many a rustic nosegay."

SHAKSPEARE's Cuckoo-buds are yellow, and are supposed to be the wild Yellow Ranunculus. Indeed, he expressly distinguishes his Cuckoo-buds from this flower.

> "When daisies pied, and violets blue,
> And *lady-smocks* all *silver-white,*
> And *cuckoo buds* of *yellow* hue
> Do paint the meadows with delight."



Buxus sempervirens. Common Box-tree ♄

Pub.d by W. Baxter Botanic Garden Oxford 1834

I. R. Del. C. Mathews, Sc.

BU'XUS*.

Linnean Class and Order. MONŒ'CIA†, TETRA'NDRIA.

Natural Order. EUPHORBIA'CEÆ, *Juss.*—Lindl. Syn. p. 220.; Introd. to Nat. Syst. of Bot. p. 102.—Rich. by Macgilliv. p. 539.—Loud. Hort. Brit. p. 533.—EUPHORBIÆ, Juss. Gen. Pl. p. 385.—Sm. Gram. of Bot. p. 184.—QUERNEALES; sect. EUPHORBINÆ; type, EUPHORBIACEÆ; subtype, BUXIDÆ; Burn. Outl. of Bot. pp. 523, 600, 602, & 610.—TRICOCCÆ, *Linn.*

GEN. CHAR. *Flowers* clustered, axillary. *Barren Flowers* (figs. 1 & 2.). *Calyx* (see fig. 2.) of 3 roundish, blunt, concave, spreading, coloured sepals. *Corolla* (see fig. 1.) of 2 roundish, concave, spreading petals, similar to the calyx, but rather larger. *Filaments* 4, awl-shaped, spreading, about the length of the petals. *Anthers* (see fig. 1.) 2-lobed, incumbent. Rudiment of a *Germen. Fertile Flower* (fig. 3.) from the same bud. *Calyx* inferior, of 4 roundish, blunt, concave, spreading, permanent sepals. *Corolla* of 3 roundish, concave, petals, like the sepals, but larger. *Germen* superior, nearly globular, with 3 blunt angles, or lobes. *Styles* (see fig. 3.) 3, spreading, short, thick, permanent. *Stigmas* blunt, rough. *Capsule* (fig. 4.) globular, with 3 spreading beaks, of 3 cells (fig. 5.), and 3 valves (fig. 7.), bursting elastically. *Seeds* (fig. 3.) 2 in each cell (see figs. 5 & 6), upright, parallel, oblong, slightly compressed; externally rounded.

Distinguished from other genera, in the same class and order, by the *barren flowers* having a *calyx* of 3 sepals, a *corolla* of 2 petals, and the rudiment of a *germen;* and the *fertile flower* a *calyx* of 4 sepals; a *corolla* of 3 petals, 3 *styles*, and a *capsule* with 3 beaks, 3 cells, and 6 seeds.

One species British.

BU'XUS SEMPERVI'RENS. Common Box-tree.

SPEC. CHAR. Leaves egg-shaped, convex; their footstalks hairy at the edge. Anthers egg-arrow-shaped.

Engl. Bot. t. 1341.—Linn. Sp. Pl. p. 1394.—Huds. Fl. Angl. (2nd ed.) p. 417.—Sm. Fl. Brit. v. iii. p. 1013. Engl. Fl. v. iv. p. 133.—With. (7th ed.) v. ii. p. 252.—Gray's Nat. Arr. v. ii. p. 262.—Lindl. Syn. p. 223.—Hook. Brit. Fl. p. 402.—Curt. Brit. Entomol. v. viii. t. 339.—Bab Fl. Bath. p. 44.—*Búxus*, Ray's Syn. p. 445.—Johnson's Gerarde, p. 1410.—Hunt. Evelyn's Silva, p. 376.

LOCALITIES.—On dry chalky hills, in several parts of England.—*Bedfordsh.* On the chalk hills near Dunstable, plentifully: Mr. WOODWARD.—*Gloucestershire;* At Boxwell in Coteswold: RAY.—*Kent;* At Boxley: RAY.—*Somersetsh.* Near Bath: Rev. C. C. BABINGTON.—*Surrey;* On Box-hill near Dorking, plentifully: RAY.—*Wilts;* About Great Bedwyn: W. BARTLETT, Esq.—*Yorksh.* Hedges about Kilburne near Coxwold: Rev. ARCHDEACON PIERSON.

A Shrub or Tree.—Flowers in April.

A very slow growing tree, but, if left to itself, attaining to the height of from 12 to 20 feet. *Leaves* opposite, on very short,

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Fig. 1. A Barren Flower a little magnified.—Fig. 2. The same, natural size.—Fig. 3. A Fertile Flower.—Fig. 4. A Capsule.—Fig. 5 The same, with the upper part of the valves removed to show the Seeds.—Fig. 6. The Capsule cut transversely.—Fig. 7. The Valves separated.—Fig. 8. A Seed.

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* Called by the Greeks *puxos*, from *puca*, Gr. *dense, thick;* but whether the epithet was originally applied to the foliage, or to the compact nature of the wood, may be questioned. *Withering.*—The Box is the badge of the Highland clan MACINTOSH. The variegated kind marks the clan MACPHERSON. *Hooker.*

† See *Bryonia dioica*, folio 83.

somewhat downy footstalks, nearly egg-shaped, very entire, with a broad shallow notch at the summit, of a shining dark green above, concave, and paler underneath. *Stipulas* none. *Flowers* in the axils of the leaves, in small tufts, of a pale yellow, or cream-colour. *Capsule* globose, crowned with the 3 permanent styles.

It is not always easy, says Sir J. E. SMITH, to draw the line of distinction between the calyx and petals, which moreover vary occasionally in number. In the accompanying plate, fig. 1. our draftsman has represented one of the sepals, as well as the two petals, a mistake which was not observed till the whole impression of the plate was struck off.

There is a variety of this shrub with a narrower leaf, *Buxus angustifolia* of RAY'S *Syn.* first observed by Mr. DOODY, on Box-hill.

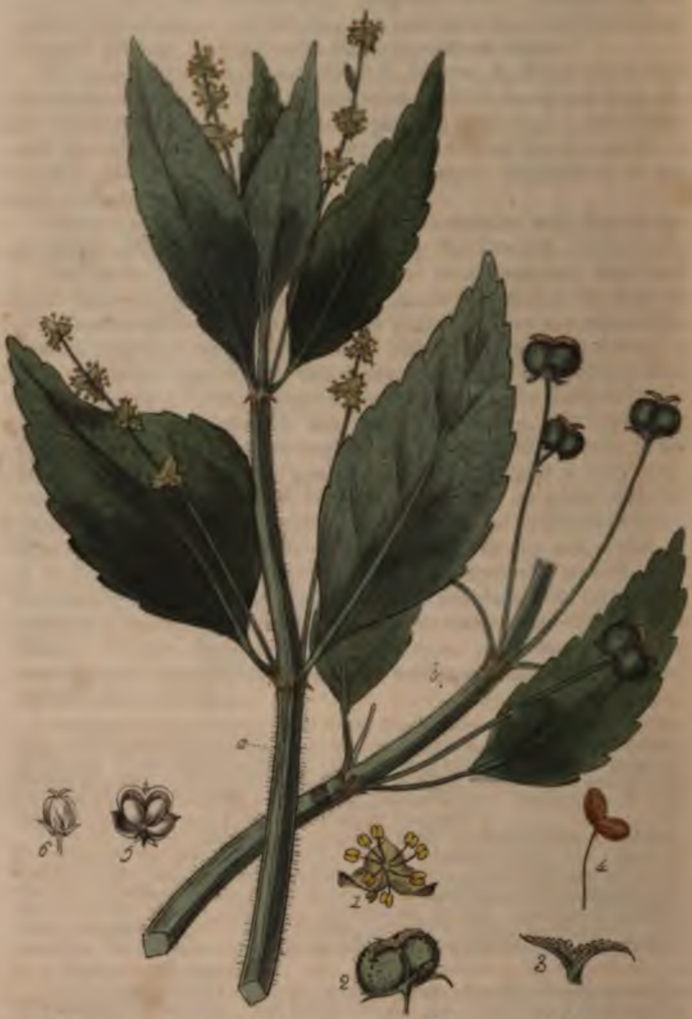
The leaves of the Box are deleterious to all animals that feed upon them, except the Porcupine. Camels are said to be fond of them, but if allowed to eat them they perish. They are reputed to possess sudorific powers, and, made into a tincture, they formed a once celebrated specific for intermittent fevers. The remedy was kept secret by a German empiric until purchased by Joseph II. for 1500 florins, since when it has fallen into disuse. OLIVIER DE SERRES recommends the branches and leaves of this shrub, as by far the best manure for the grape, not only because it is very common in the South of France, but because there is no plant that, by its decomposition, affords such a great quantity of vegetable mould. The wood of the Box-tree is of more value than any other part, it is of a yellowish colour, close-grained, very hard and smooth, and is so heavy that it will sink in water. It is generally sold by weight, fetching a high price. Not being apt to warp or split, it is well adapted for the use of the turner. Combs, mathematical instruments, knife-handles, tops, screws, button-moulds, and weavers' shuttles are made of it.

There is no wood, perhaps, equal to the English Box-wood for wood engravings, which, since the modern improvements in the art, and the plan of cutting on the end of the block instead of the lengthway of the grain, is the most important purpose to which it is applied. Isolated Box-trees may be occasionally observed 15 or 20 feet high, and as many inches in girt. Single trees of such dimensions may be seen in different parts of England.

There are two old Box trees now (June 27. 1835) growing between the Danby Gateway and the New Library in the Oxford Botanic Garden, the largest of which is 21 feet high, and its branches extend over a space of ground 18 feet in diameter; the trunk measures 1 foot 11 inches in girt one foot from the ground, and 1 foot 10 inches in girt at four feet from the ground, where it divides into two principal branches, one of which girts 1 foot 8 inches, and the other 1 foot 3 inches. On the Surrey hills and other districts in which the Box-tree prevails, they attain to a still larger size.

The Box-tree is often used (with other evergreens) for the internal decoration of Churches at Christmas; and the custom still prevails at Oxford of decorating the interior of the Churches with sprigs of this shrub at Easter. WORDSWORTH relates, that in the North of England it is customary at funerals to provide sprigs of Box, which are thrown by each of the attendant mourners into the grave of the deceased. The Box bears clipping remarkably well, and on that account it is a favourite for hedges, and formal figures. A dwarf variety is universally cultivated for borders to flower beds.

Puccinia Buxi, beautifully figured in Dr. GREVILLE'S *Scottish Cryptogamic Flora*, t. 17, is sometimes found on the leaves of the Box. Mr. EDW. JENNER observed it abundantly on the under surface of the leaves of Box-trees in the gardens at Nuneham Courtney, near Oxford, in 1833.



Mercurialis Perennis. Dogs Mercury. ♃

C. Mathews. Del & Sc   Pub.d by W. Baxter. Botanic Garden. Oxford. 1835.

MERCURIA'LIS[*].

Linnean Class and Order, DIŒ'CIA[†], ENNEA'NDRIA.

Natural Order. EUPHORBIA'CEÆ, *Juss.*—Lindl. Synop. p. 220.; Introd. to the Nat. Syst. of Bot. p. 102.—Rich. by Macgilliv. p. 539.—Loud. Hort. Brit. p. 533.—EUPHORBIÆ, Juss. Gen. Pl. p. 385.—Sm. Gram. of Bot. p. 184.—QUERNEALES; sect. EUPHORBINÆ; type, EUPHORBIA'CEÆ; subtype, EUPHORBIDÆ; Burn. Outl. of Bot. pp. 523, 600, 602, & 604.—TRICOCCÆ, *Linn.*

GEN. CHAR. *Barren Flowers*. *Calyx* (fig. 1.) in 3 deep, egg-shaped, concave, spreading segments. *Corolla* none. *Filaments* from 9 to 12, hair-like, upright, nearly equal to the calyx. *Anthers* (figs. 1 & 4.) of 2 globular lobes, bursting along the upper side. *Fertile Flowers* (see fig. 6). *Calyx* as in the *barren flowers*. *Corolla* none. *Nectaries* 2 awl-shaped pointed bodies, one placed on each side of the germen, and pressed close to its furrows. *Germen* (fig. 6.) superior, roundish, compressed, with a furrow at each side, rough with hairs. *Styles* (see figs. 3 & 6.) 2, widely spreading, tapering, rough. *Stigma* (fig. 3.) acute. *Capsule* of 2 globular lobes, and 2 elastic cells (see fig. 5). *Seeds* (see fig. 5.) one in each cell, globular.

Distinguished from other genera, in the same class and order, by the *barren flowers* with a deeply 3-cleft *calyx*; no *corolla*; from 9 to 12 *stamens*, with anthers of 2 globose cells. *Fertile flowers* with a calyx like that of the *barren* ones; no *corolla*, 2 *styles*, and a 2-lobed, 2-celled capsule, with one seed in each cell.

Two species British.

MERCURIA'LIS PERE'NNIS. Perennial Mercury. Dog's Mercury.

SPEC. CHAR. Stem perfectly simple. Leaves rough. Root perennial, creeping.

Engl. Bot. t. 1872.—Curt. Fl. Lond. t. .—Linn. Sp. Pl. p. 1465.—Huds. Fl. Angl. (2nd ed.) p. 435.—Sm. Fl. Brit. v. iii. p. 1083. Engl. Fl. v. iv. p. 248. —With. (7th ed.) v. ii. p. 513.—Gray's Nat. Syst. v. ii. p. 261.—Lindl. Syn. p. 223.—Hook. Br. Fl. p. 438.—Lightf. Fl. Scot. v. ii. p. 620.—Sibth. Fl. Oxon. p. 133.—Abbot's Fl. Bedf. p. 216.—Purt. Midl. Fl. v. ii. p. 481.—Relh. Fl. Cantab. (3rd ed.) p. 410.—Hook. Fl. Scot, p. 289.—Grev. Fl. Edin. p. 210.—Fl. Devon. pp. 160 & 136.—Johnston's Fl. of Berw. v. i. p. 221.—Curt. Brit. Entomol. v i. t. 28.—Walk. Fl. of Oxf. p. 298.—Bab. Fl. Bath. p. 45.—Mack. Catal. of Pl. of Irel. p. 86.—*Mercurialis perennis repens Cynocrambe dicta*, Ray's Syn. p. 138.—*Cynocrambe*, Johnson's Gerarde, p. 333.

LOCALITIES.—In woods, copses, hedge banks, &c. Common.

Perennial.—Flowers in April and May.

Root creeping, white, very fibrous. *Stem* upright, unbranched, square, about a foot high, leafy in the upper part. *Leaves* opposite,

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Fig. 1. A Barren Flower.—Figs. 2 & 6. Fertile ones.—Fig. 3. Pistil.—Fig. 4. A Stamen.—Fig. 5. Capsule.

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[*] From the heathen deity, MERCURY; said by PLINY to have been the discoverer of this plant; or rather, perhaps, of its powerful qualities: though possibly the name may merely refer to the colour which the herb yields, in heraldry so called. WITHERING.

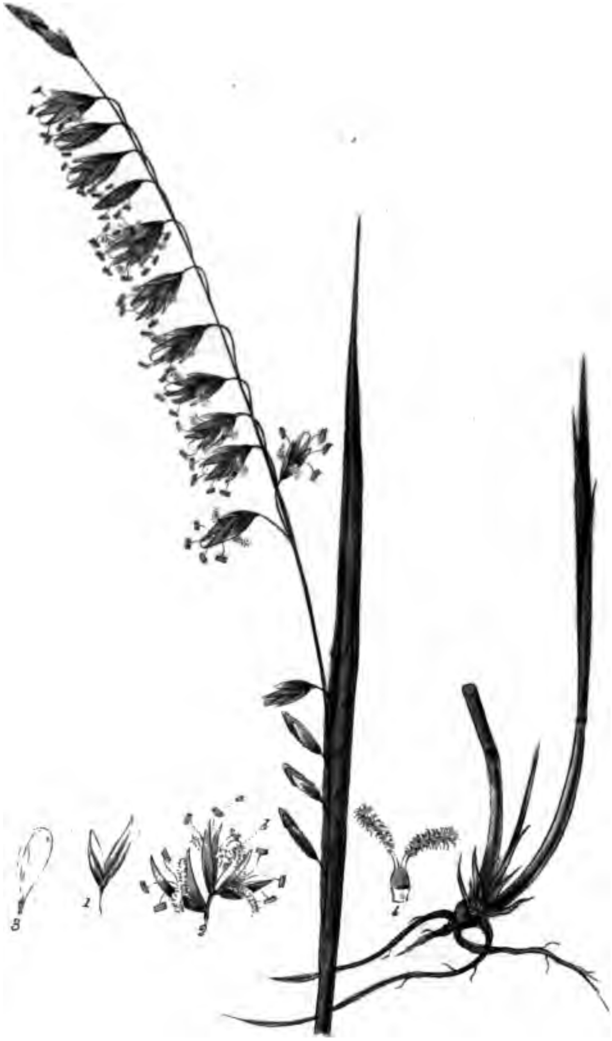
[†] From *dis*, Gr. *two*; and *oicos*, Gr. *a house*; the 22nd class in the *Artificial System* of LINNÆUS; it contains those plants which have their stamens and pistils in separate flowers, and those flowers situated on two separate plants.

on short petioles, egg-shaped, acute, serrated, 2 or 3 inches long, each accompanied at the base by a pair of small, awl-shaped, reflexed *stipulas*. *Flowers* yellowish-green, on axillary stalks, in interrupted, slender, upright *spikes*, near the top of the stem; in the barren plant, longer than the leaves; in the fertile one, concealed among them. Flowers in the fertile or pistilliferous plant few; in the barren or staminiferous one numerous. There are 2 awl-shaped bodies found occasionally on the opposite side of the germen, and rising above the styles; these are supposed to be the *nectaries*. Whole *herb* rough with short, scattered, bristly hairs. The staminiferous and pistilliferous plants are rarely found intermixed, each sort usually growing in large patches, whence it is most probable that this plant propagates itself chiefly by roots.

This species of *Mercury* has a nauseous taste, and a heavy disagreeable odour, and is very poisonous; it has, nevertheless, been eaten boiled as a pot-herb, when mixed with mucilaginous and oily substances. Instances are however recorded of the fatal consequences of its use occasionally in this country. In the 3rd edition of RAY'S *Synopsis*, p. 138, there is an account of the case of a man, his wife, and three children, who experienced deleterious effects from eating it fried with bacon. Sheep and goats eat it; cows and horses refuse it. In drying, it turns blue. Steeped in water, it affords a fine deep blue colour; but no means have been discovered by which it can be fixed.

Uredo confluens, Grev. Fl. Edin, p. 438, is not uncommon (at least about Oxford) on the leaves of this plant.

Natural Order, EUPHORBIA'CEÆ.—This order is composed of Apetalous, dicotyledonous *trees*, *shrubs*, or *herbaceous* plants, most of which contain a milky acrid juice. The *leaves* are alternate, simple, rarely compound, and usually accompanied by stipulæ. The *flowers* are axillary or terminal, *monœcious* or *diœcious*; and usually furnished with *bracteæ*; sometimes they are enclosed within an involucrum. The *calyx* is lobed, inferior, with various glandular or scaly internal appendages; (sometimes wanting). In the *staminiferous flowers*, the *stamens* are definite or indefinite, distinct or monadelphous; and their *anthers* are 2-celled. In the *pistilliferous flowers*, the *ovarium (germen)* (fig. 6.) is superior, sessile, or stalked, with 2, 3, or more cells. The *ovules* are either solitary or in pairs, and are suspended from the inner angle of the cell; the *styles* are equal in number to the cells of the ovarium, sometimes they are distinct, sometimes combined, and sometimes they are wanting; the *stigma* is either compound, or single with several lobes. The *fruit* (see fig. 5.) consists of 2, 3, or more dehiscent cells, which separate with elasticity from their common axis. The *seeds* are either solitary or in pairs (see fig. 5.) and are suspended, with an arillus; their *embryo* is enclosed in fleshy albumen; their *cotyledons* are flat; and their *radical* superior.—For an account of the important properties of this family of plants, I beg to refer the reader to Dr. LINDLEY'S *Introduction to the Natural System of Botany*, p. 103—6.



Mélica nutans. Mountain Melic graſs. ♃

C. Mathews Del. & Sc. Pub^d. by W. Baxter. Botanic Garden. Oxford. 1835.

ME'LICA[*].

Linnean Class and Order. TRIA'NDRIA[†], DIGY'NIA.

Natural Order. GRAMI'NEÆ, Juss. Gen. Pl. p. 28.—Sm. Gr. of Bot. p. 68.—Lindl. Syn. p. 293.; Introd. to Nat. Syst. of Bot. p. 292.—Loud. Hort. Brit. p. 542.—GRA'MINÆ, *Linn.*—Rich. by Macgilliv. p. 393.—Sm. Eng. Fl. v. i. p. 71.—GRAMINA'LES, Burn. Outl. of Bot. p. 359.

GEN. CHAR. *Panicle* loose. *Calyx* (fig. 1.) of 2 unequal, spreading, concave, ribbed, membranous, awnless glumes, containing 1 or 2 perfect *florets*, with the rudiments of 1 or 2 more (see fig. 2, b.). *Corolla* (see fig. 2.) of 2 unequal, oblong, awnless paleæ; the outer one largest, concave ribbed; the inner flat, with 2 marginal ribs. *Nectary* (see fig. 4.) cup-shaped, at the base of the germen. *Filaments* (see fig. 2, a.) 3, hair-like. *Anthers* protruded, pendulous. *Germen* (see fig. 4.) roundish. *Styles* (see fig. 4.) 2, elongated, distant. *Stigmas* oblong, woolly. *Seed* egg-shaped, loose, covered with the loose hardened corolla.

Distinguished from other genera, with a loose panicle, in the same class and order, by the *calyx* of 2 glumes containing 1 or 2 perfect florets, with the rudiments of 1 or 2 intermediate ones (see fig. 3.); and the *seed* coated with the hardened corolla.

Three species British.

ME'LICA NU'TANS. Mountain Melic-grass.

SPEC. CHAR. Panicle close, nearly simple, drooping. Flowers pendulous. Spikelet with 2 perfect florets.

Engl. Bot. t. 1059.—Curt. Fl. Lond. t. .—Knapp's Gram. Brit. t. 42.—Graves' Brit. Grasses, t. 50.—Mart. Fl. Rust. t. 65.—Linn. Sp. Pl. p. 98.—Huds. Fl. Angl. (2nd ed.) p. 37.—Sm. Fl. Brit. v. i. p. 92. Engl. Fl. v. i. p. 112.—With. (7th ed.) v. ii. p. 163.—Gray's Nat. Arr. of Brit. Pl. v. ii. p 111.—Lindl. Syn. p. 307.—Hook. Brit. Fl. p. 37.—Leers' Fl. Herb. (2nd ed.) p. 25. t. 3. f. 4.—Lightf. Fl. Scot. v. i. p. 95.—Purt. Midl. Fl. v. iii. p. 9.—Hook. Fl. Scot. p. 30.—Grev. Fl. Edin. p. 20.—Fl. Devon. pp. 15 & 122.—Johnston's Fl. of Berw. v. ii. p. 274.—*Gramen avenaceum, locustris rubris, montanum*, Ray's Syn. p. 403.

LOCALITIES.—In mountainous woods in the North of England, and in Scotland. Rare.—*Cheshire*; Frequent in woods; as Early Banks-wood, &c.: Mr. BRADBURY.—*Derbyshire*; Between Matlock and Newhaven: Mrs. ACLAND.—*Devon*; In a wood near Dolton: Dr. WAVELL.—*Durham*; Castle Eden Dean: N. J. WINCH, Esq.—*Herts*; Puckeridge: Dr. MARTYN.—*Kent*; In Charlton Wood: Dr. MARTYN.—*Northumberland*; Teckel Wood at Simonburn: N. J. WINCH, Esq.—*Somersetshire*; In Leigh Wood: Mr. DYER.—*Suffolk*; Woods at Swefling, and North Glemham; and elsewhere in this county: Rev. G. CRABBE.—*Westmoreland*; Near Kendal: HUDSON.—*Worcestersh.* In Bewdley Wood, near Kidderminster: Rev. A. BLOXHAM.—*Yorkshire*; Mackershaw, and Studley Woods: Mr. BRUNTON. Byland Wood near Coxwold: Rev. ARCHDEACON PIERSON. Woods between Thorp Arch and Wetherby: Rev. W.

Fig. 1. Calyx.—Fig. 2. Three perfect Florets, with one neuter one, b.—Fig. 3. A neuter Floret.—Fig. 4. Nectary, Germen, Styles, and Stigmas.—All more or less magnified; fig. 3, highly so.

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[*] From *meli*, Gr. *honey*: the seed being somewhat sweet. WITHERING.

[†] See *Phalaris canariensis*, folio 56, note †.

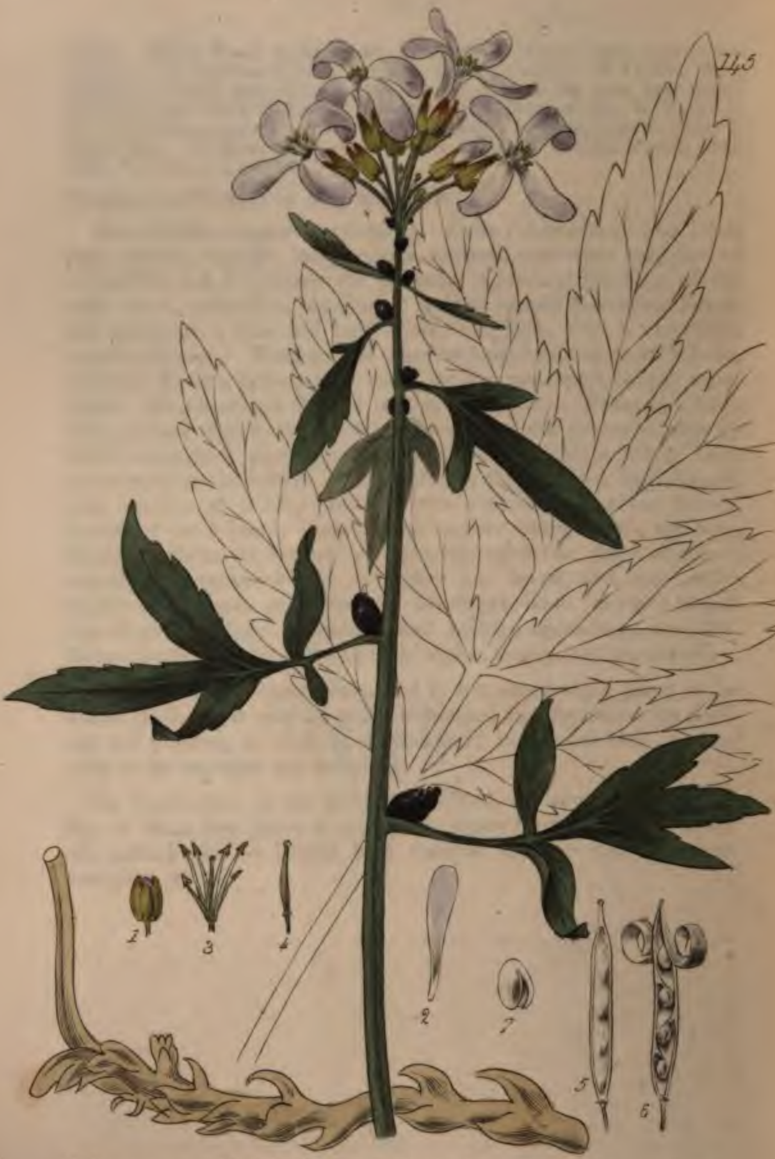
Wood. Helk's Wood, Ingleton: Mr. Woodward. Grass-wood, near Grassington, in the neighbourhood of Kilnsay: Mr. W. Curtis.—WALES. *Denbighshire;* Lower part of Garreg Wen Rocks, close to the river near Garn: Mr. Griffith.—SCOTLAND. *Berwickshire;* Gateheugh: Mr. W. Baird.—In Lord Breadalbane's Woods at Ardmaddy, in Nether-Lorn: Rev. J. Lightfoot. On banks in *Angus-shire:* Mr. D. Don. Rosslyn Woods, plentiful: Mr. Arnott, and Dr. Greville.

Perennial.—Flowers in May and June.

Root fibrous, somewhat creeping. *Culm (stem)* from 1 to 2 feet high, simple, upright, leafy, rough, striated, somewhat angular, of a purplish colour towards the bottom. *Leaves* at the base of the culm short, scale-like, brownish; as they ascend becoming longer and narrower, a line and half broad, roughish, with a very short *stipula (ligula.)* *Panicle* 2 to 4 inches long, bending down a little, with the flowers inclining one way, for the most part simply racemose; but sometimes divided in the lower part. *Peduncles* hair-like, pressed close to the rachis, flexuose, upright, somewhat downy when magnified, especially just under the spikelets, where they are somewhat thickened *Calyx glumes* nearly equal, egg-shaped, very concave, of a deep purple-brown, containing 2 perfect *florets,* besides 1 or 2 blunt, long-stalked, neuter ones, which are very minute. *Paleæ* of the *corolla* unequal, outer one large, concave, egg-shaped, many-ribbed; the inner one broad, flat, and much shorter. *Filaments* quite distinct. *Anthers* yellow. *Germen* broad-egg-shaped, pellucid. *Styles* naked below; spreading, and feathery above. *Nectary* of two little scales, fleshy, and truncated.

This is a very elegant grass, and is not unworthy a place in the flower garden. It may be easily cultivated and increased, by parting and planting its roots in the autumn; but it has little pretensions to be regarded for its utility.

Mr. Pennant, in his Tour to Scotland, informs us, that in the Isle of *Rasa* this grass is made into ropes for fishing-nets, which are remarkable for lasting long without rotting.—Cows, horses, and goats, eat it.



Dentária bulbifera   *Bulbiferous Coral-root.* ♃

C. Mathews Del. & Sc.   Pub.d by W. Baxter Botanic Garden Oxford 1835

(145.)

DENTA'RIA*.

Linnean Class and Order. TETRADYNA'MIA†, SILIQUO'SA‡.

Natural Order. CRUCI'FERÆ§, Juss. Gen. Pl. p. 237.—Sm. Gram. of Bot. p. 138. Eng. Fl. v. iii. p. 153.—Rich. by Macgilliv. p. 498.—CRUCI'FERÆ; subord. PLEURORHI'ZEÆ||; tribe, ARABIDEÆ, Lindl. Syn. pp. 20 & 22. Introd. to Nat. Syst. of Bot. pp. 14 to 18.—Loud. Hort. Brit. pp. 498 & 499; and Mag. of Nat. Hist. v. i. pp. 143 & 239.—ROSALES; subord. RHŒADOSÆ; sect. RHÆADINÆ; type, BRASSICACEÆ; subtype, ARABIDÆ; Burn. Outl. of Bot. pp. 614, 784, 847, 854, & 856.—SILIQUOSÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 4 upright, egg-oblong, blunt, deciduous sepals, equal at the base, approaching towards the top. *Corolla* cruciform (forming a cross), of 4 inversely egg-shaped, blunt, horizontal petals (fig. 2.), with upright claws shorter than the calyx. *Filaments* (fig. 3.) 6, awl-shaped, simple, distinct, as long as the calyx, two of them shorter than the other four. *Anthers* (see fig. 3.) arrow-shaped, upright. *Germen* (fig. 4.) oblong. *Style* short and thick. *Stigma* blunt. *Pod (siliqua)* (fig. 5.) sessile, spear-shaped, compressed laterally, tapering upwards; valves flat, without ribs, narrower than the partition, bursting elastically from the base, and mostly revolute (see fig. 6). *Seeds* (see fig. 6.) egg-shaped, not bordered, disposed alternately in a single row; their umbilical cord broad. *Cotyledons* accumbent (o=), rather thick (see fig. 7).

The lanceolate (spear-shaped) *pod;* flat, nerveless *valves*, narrower than the partition, and usually separating elastically from the base; and the *seeds* with a broad umbilical cord; will distinguish this from other genera with accumbent cotyledons, in the same class and order.

One species British.

DENTA'RIA BULBI'FERA. Bulbiferous Toothwort. Coral-root. Toothed Violet.

SPEC. CHAR. Stem-leaves alternate, lower ones pinnated; upper simple, with axillary bulbs.

Eng. Bot. t. 309.—Johnson's Gerarde, p. 984.—Linn. Sp. Pl. p. 912.—Huds. Fl. Angl. (3rd ed.) p. 285.—Sm. Fl. Brit. v. ii. p. 696.— Engl. Fl. v. iii. p. 186.—With. (7th ed.) v. iii. p. 766.—Lindl. Syn. p. 25.—Hook Br. Fl. p. 301.—Don's General Syst. of Gard. and Bot. v. i. p. 172.—Curt. Brit. Entomol. v. iii. t. 144. —Walk. Fl. of Oxf. p. 187.—*Cardamine bulbifera*, Gray's Nat. Arr. v. ii. p. 673.—Hook. Fl. Scot. p. 198.—*Dentaria heptaphyllos baccifera*, Blackstone's Specimen Botanicum, p. 17.

Fig. 1. The Calyx.—Fig. 2. A Petal.—Fig. 3. Stamens and Pistil.—Fig. 4. Germen, Style, and Stigma.—Fig 5. Pod, or Siliqua.—Fig. 6. The same, with the valves separated from the base, and rolling upwards, showing the partition, and the *seeds* with their dilated stalks or umbilical cords.—Fig. 7. A seed with the testa removed to show the accumbent cotyledons.—Fig. 7 a little magnified.

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* From *dens*, a *tooth;* from the tooth-like scales of the root; for the same reason it is called *toothwort* in English.

† See *Draba verna*, f. 38.

‡ See *Erysimum cheiranthoides*, f. 62.

§ See *Draba verna*, f. 38, a.

|| See *Cardamine pratensis*, f. 141. n. ||.

Localities.—In woods and shady places. Very rare.—*Buckinghamshire;* In the woods at Landwater, between Beaconsfield and High Wycombe: Hudson, and Mr. Gotobed.—*Kent;* Sides of rivulets about Tunbridge Wells: Mr. T. F. Forster, jun. Between Tunbridge Wells and Woodgate: Mr. J. Woods, jun.—*Middlesex;* In the Old Park Wood near Harefield, abundantly: Blackstone. In the same place, in 1826: Mr. G. Charlwood, in Curt. Brit. Entomol.—*Surrey;* In a wood three miles beyond Croydon near Woddington towards the Downs: Merrett.—*Sussex;* In High-reede and Foxhole Woods near Mayfield: Parkinson. On the left hand rocks going to the High Rocks at Tunbridge Wells from Mr. Fry's, and on the sides of the rivulets: Forster.—SCOTLAND. Near Dupplin: Mr. Shillinglaw, in Hook. Fl. Scot.

Perennial.—Flowers in April and May.

Root creeping horizontally, whitish, fleshy, toothed, branched, and subdivided. *Stem* simple, upright, from one to two feet high, leafy. *Leaves* alternate, bright green, several of the lowermost pinnate, of 5 or 7 leaflets; others ternate; upper ones simple; all acutely spear-shaped, and variously serrated. *Flowers* large and handsome, in terminal corymbs. *Petals* purple, flesh-coloured, or white. Very dark coloured, scaly *bulbs*, are produced on the stem in the axils of the upper leaves, these falling off take root and become new plants, and by this means an ample increase is secured, the plant seldom perfecting *seed*. If cultivated in a garden it should be planted in a moist shady situation. It has become perfectly naturalized in the British Arboretum of the Oxford Botanic Garden.

The genus *Dentaria* has, by some authors, been united with that of *Cardamine*, (see folio 141); but that very excellent Botanist, Professor De Candolle, has pointed out a character by which it may be kept separate; namely, by the spear-shaped *pod*, and dilated *stalks (umbilical cords)* of the *seeds*, (see figs. 5 & 6.); this is the more desirable, as "the habit, magnitude, beauty, and peculiar kind of *root*, mark it so distinctly." In the *General System of Gardening and Botany*, by Mr. Don, no less than 17 species, natives of different parts of the globe, are described, some of which are among the finest alpine plants of the Natural Order *Cruciferæ*.

> "The love of Nature's works
> Is an ingredient in the compound man,
> Infused at the creation of the kind.
> And, though th' Almighty Maker has throughout
> Discriminated each from each, by strokes
> And touches of His hand, with so much art
> Diversified, that two were never found
> Twins at all points—yet this obtains in all,
> That all discern a beauty in His works,
> And all can taste them. Minds that have been form'd
> And tutor'd, with a relish more exact,
> But none without some relish, none unmoved."
>
> Cowper.

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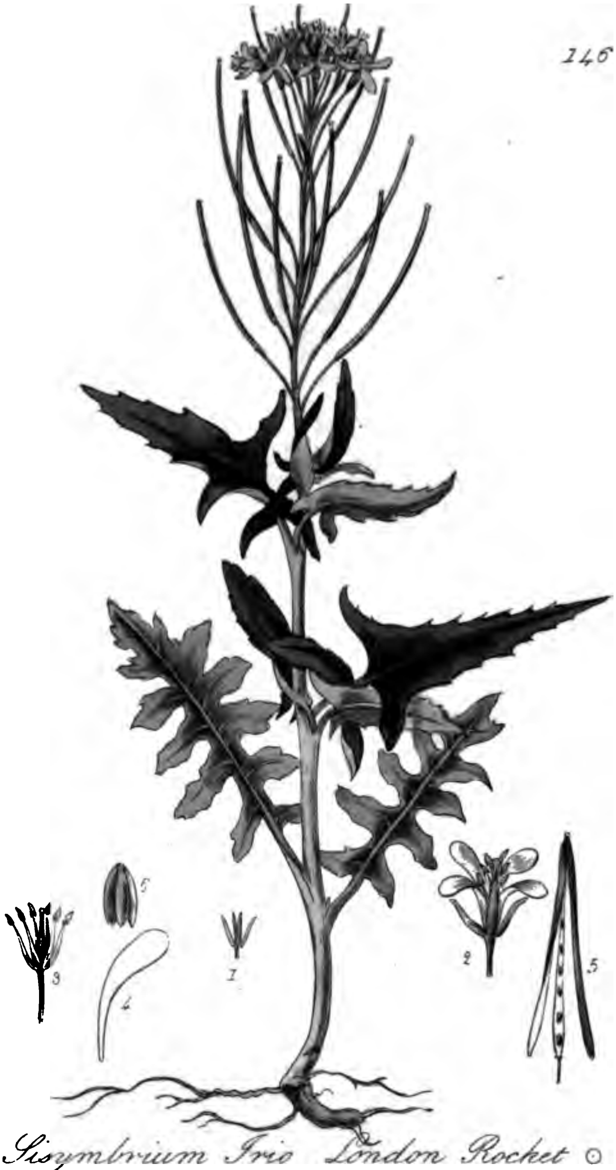

Sisymbrium Irio London Rocket ⊙

E.W. Del. Pub.d by W. Baxter, Botanic Garden, Oxford. 1835. C. Mathews Sc.

SISY'MBRIUM[*].

Linnean Class and Order. TETRADYNA'MIA[†], SILIQUO'SA[‡].

Natural Order. CRUCI'FERÆ[§], Juss. Gen. Pl. p. 237.—Sm. Gram. of Bot. p. 138. Engl. Fl. v. iii. p. 153.—Rich. by Macgilliv. p. 498.—CRUCI'FERÆ; subord. NOTORHI'ZEÆ[||]; tribe, SISYMBRIEÆ; Lindl. Syn. pp. 20 & 29. Introd. to Nat. Syst. of Bot. pp. 14 to 18.—Loud. Hort. Brit. p. 498; and Mag. of Nat. Hist. v. i. pp. 143 & 240.—ROSALES; subord. RHŒADOSÆ; sect. RHÆADINÆ; type, BRASSICACEÆ; subty. SISYMBRIDÆ; Burn. Outl. of Bot. pp. 614, 784, 847, 854, & 858.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 4 somewhat spreading, oblong, concave, slightly coloured, deciduous sepals, nearly equal at the base. *Corolla* (see fig. 2.) cruciform, of 4 oblong, blunt, undivided, flat petals (fig. 4.), their claws nearly the length of the calyx. *Filaments* (see fig. 3.) 6, thread-shaped, simple, distinct, upright, 2 rather shorter than the other 4. *Anthers* oblong-heart-shaped, a little spreading. *Germen* (see fig. 3.) strap-shaped, slender, sessile. *Style* very short. *Stigma* capitate, notched, permanent. *Pod (siliqua)* cylindrical, or slightly angular; valves strap-shaped, concave, wavy; partition (dissepiment) narrow, membranous. *Seeds* (see fig. 5.) ranged alternately, forming a single row, numerous, small, egg-shaped, or oblong, not bordered. *Cotyledons* (see fig. 6.) flat, incumbent (o||), sometimes (according to Dr. BROWN) obliquely.

The nearly cylindrical *pod;* capitate notched *stigma;* and *calyx* nearly equal at the base; will distinguish this from other genera with flat, incumbent *cotyledons,* in the same class and order.

Three species British.

SISY'MBRIUM IRIO[¶]. London Rocket. Broad-leaved Hedge-Mustard.

SPEC. CHAR. Stem and leaves smooth. Leaves runcinate, toothed. Calyx and Pods spreading.

Engl. Bot. t. 1631.—Curt. Fl. Lond. t. 311.—Jacq. Fl. Austr. t. 322.—Linn. Sp. Pl. p. 921.—Huds. Fl. Angl. (2nd ed.) p. 297.—Sm. Fl. Brit. v. ii. p. 705. Engl. Fl. v. iii. p. 197.—With. (7th ed.) v. iii. p. 773.—Lindl. Syn. p. 29.—Hook. Brit. Fl. p. 305.—Sibth. Fl. Oxon. p. 207.—Relh. Fl. Cantab. (3rd ed.) p. 267.—Purt. Midl. Fl. v. iii p 57.—Johnston's Fl. of Berwick, v. i. p. 145.—Walk. Fl. of Oxf. p. 190.—Mack. Catal. of Pl. of Ireland, p. 62.—*Sisymbrium latifolium,* Gray's Nat. Arr. v. ii. p. 679.—*Erysimum latifolium neapolitanum,* Ray's Syn. p. 298.

Fig. 1. Calyx.—Fig. 2. Calyx and Corolla.—Fig. 3. Stamens, Germen, Style, and Stigma.—Fig. 4. A separate Petal.—Fig. 5. A Pod, opening from the base, and showing the two valves, the dissepiment, and the seeds.—Fig. 6. The Seed, with the testa removed, showing the incumbent cotyledons. All, except figures 1 & 5, more or less magnified.

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[*] *Sisumbrion* was the Greek name of some aquatic plant. It appears to have had an agreeable smell. OVID advises that VENUS should be propitiated with garlands of myrtle, of roses, and of sisymbrium. It is, however, more probably derived from *sisibos,* Gr. a *fringe;* as some of the species have fringed roots. DON.

[†] See *Draba verna,* folio 38.

[‡] See *Erysimum cheiranthoides,* f. 62.

[§] See *Draba verna,* f. 38, a.

[||] See *Erysimum cheiranthoides,* f. 62.

[¶] From *eruo,* Gr. *to cure;* see *Erysimum,* folio 62.

Localities.—In waste ground, on walls, and amongst rubbish. Very rare.—*Oxfordsh.* Under Merton Wall, and in Rose Lane, Oxford: Dr Sibthorp, (1794). I observed it in the same locality in 1818, but I have not seen it there since; it has, however, become perfectly naturalized, along with *Erodium maritimum*, on the south side of the Danby Gate, entering the Botanic Garden: W. B. July 16, 1835.—*Bucks;* Road-sides near Eton: Mr. Gotobed.—*Cambridgesh.* On walls at Wisbeach: Mr. Skrimshire.—*Derbysh.* Wingfield Manor: Pilkington.—*Essex;* At Faulkbourn: Ray.—*Middlesex;* About London in various places; as between the city and Kensington: also about Chelsea: Ray. On walls at Brompton: Mr. Borrer. About Haggerstone, and near Chelsea: Mr. E. Forster, jun. On a bank opposite Shoreditch Workhouse; and between Chelsea and London, plentifully: L. W. Dillwyn, Esq. in *Bot. Guide.*—*Northumberland;* On the walls of Berwick-upon-Tweed: Ray, and N. J. Winch, Esq. Most abundant at the Pier-gate: Dr. Johnston.—IRELAND. By way-sides, and in waste places, common: Mackay.

Annual.—Flowers from June to September.

Root small, whitish, simple or branched. *Stem* from 6 inches to 2 feet high, upright, round, even, and generally smooth, though occasionally somewhat downy, purplish towards the base, branched at top, and often quite from the bottom, leafy. *Leaves* alternate; lower ones pinnatifid, runcinate*, unequally and variously cut, toothed, or serrated, petiolated (stalked), spreading and flaccid, the lobes generally pointed, the terminal one larger and longer; the upper ones spear-shaped, with an arrow-shaped base. *Flowers* in corymbs, soon lengthening out into long racemes. *Calyx* spreading and yellowish. *Corolla* small, yellow. *Petals* (fig. 4.) oblong, blunt; claws upright, the length of the calyx; limb widely spreading. *Pods* slender, nearly cylindrical, about two inches long, on short, hairy pedicels (flower-stalks). *Seeds* numerous, very small, of a pale yellow colour, and being a little protuberant, give the pods the appearance of being finely jointed; a character which readily distinguishes this species. The whole plant is of a light green, with a hot flavour of mustard.

That celebrated Naturalist, the Rev. John Ray, F. R. S., &c. remarks, that after the great fire of London, in the years 1667 and 1668, it came up abundantly among the rubbish in the ruins. Dr. Morison, Professor of Botany at Oxford, who was living at that time, was particularly struck with so singular an appearance, and in his *Præludia Botanica* has a long dialogue on this very subject; in which he seems to argue, though certainly very unphilosophically, for its production by spontaneous generation, from the fixed and volatile salts, sulphur, &c. A circumstance somewhat analogous to the above occurred, this season, in the Oxford Botanic Garden. During the time the alterations were going on in the garden last year (1834), the rubbish was removed to a piece of ground on the outside of the walls; this rubbish, as it accumulated, was set fire to from time to time, and was frequently burning for two or three days together, so that in the course of the season a considerable quantity of ashes was produced. Having received, in the Spring of the present year (1835), a valuable collection of cuttings of nearly all the species of British Willows, from W. Borrer, Esq. of Henfield, Sussex, this was the only piece of ground which we could appropriate to a *salicetum;* and in order to prepare it for the reception of the cuttings, the ashes were spread regularly over the surface, and the whole of it was trenched over; in a short time, the very spot on which the rubbish was burnt, produced an abundant, and very luxuriant crop of *Sisymbrium Irio*, and that on a part of the garden where I never remember to have seen it before.

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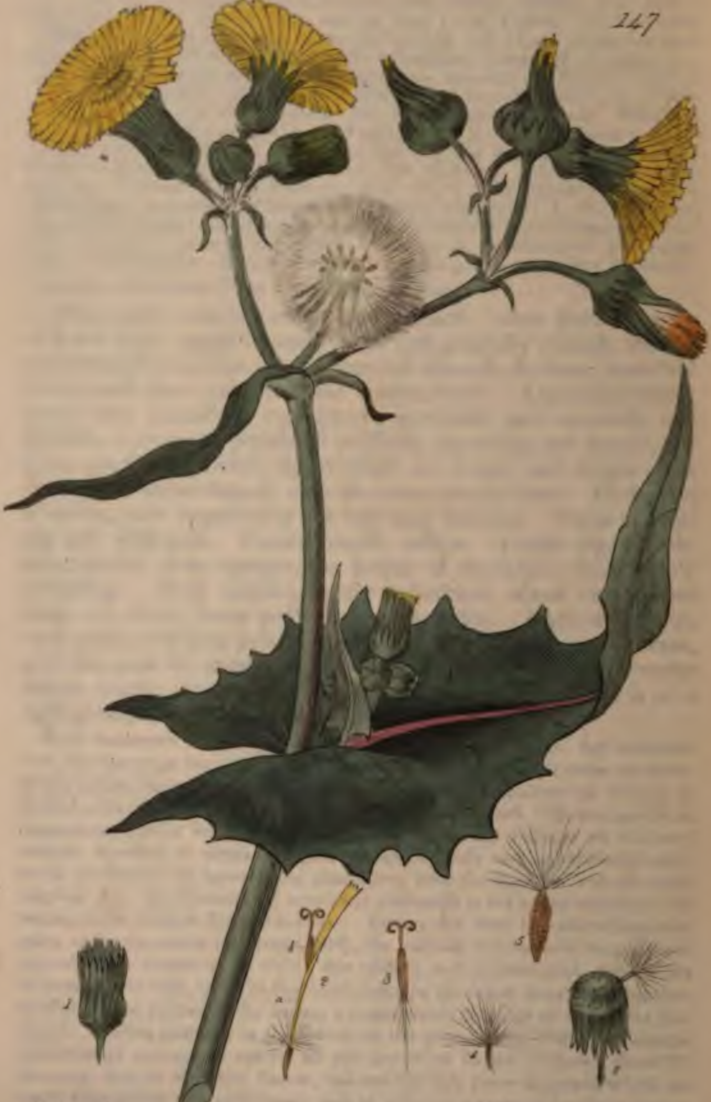
* A leaf is said to be *runcinate*, when it is cut into several transverse, acute segments, which point backwards.



Sonchus oleraceus. Common Sow-thistle. ⊙

J.K. Del. Pub.d by W. Baxter Botanic Garden Oxford 1835 C. Mathews Sc.

SO'NCHUS*.

Linnean Class and Order. SYNGENE'SIA†, POLYGA'MIA EQUA'LIS‡.

Natural Order. COMPO'SITÆ§, *Adanson.* Tribe, CICHORA'CEÆ, Lind. Syn. pp. 140 & 142; Introd. to Nat. Syst. pp. 197 & 201.—Loud. Hort. Brit. pp. 520 & 521.—CICHORACEÆ, Juss. Gen. Pl. p. 168.—Sm. Gram. of Bot. p. 120.—SYNANTHE'REÆ, Rich. by Macgilliv. p. 454.—SYRINGALES; subord. ASTEROSÆ; sect. ASTERINÆ; subsect. ASTERIANÆ; type, CICHORACEÆ; Burn. Outl. of Bot. pp. 900, 901, 920, 924, & 935.—COMPOSITÆ, *Linn.*

GEN. CHAR. *Involucrum (common calyx)* (fig. 1.) oblong, imbricated with numerous, strap-shaped, unequal, pointed scales, swelling at the base. *Corolla* compound, imbricated, uniform; *florets* (fig. 2.) numerous, perfect, equal, strap-shaped, blunt, with 4 or 5 teeth. *Filaments* (see fig. 3.) 5, hair-like. *Anthers* (see fig. 2, b.) united into a cylindrical tube. *Germen* (see fig. 2.) rather inversely egg-shaped. *Style* (see fig. 3.) thread-shaped, as long as the stamens. *Stigmas* (see figs. 2 & 3.) reflexed. *Seed-vessel* none, the permanent involucrum converging into a depressed, roundish, pointed form. *Seed (akenium* of Richard,*)* (figs. 4 & 5,) oblong, roughish. *Down (pappus)* simple, hair-like, sessile. *Receptacle* (see fig. 6.) naked, dotted.

The simple, imbricated calyx, swelling at the base; sessile, simple down; and naked receptacle; will distinguish this from other genera, with strap-shaped florets, in the same class and order.

Four species British.

SO'NCHUS OLERA'CEUS. Common Sow-thistle.

SPEC. CHAR. Flower-stalks cottony, somewhat umbellate. Involucrum smooth. Leaves runcinate; upper ones spear-shaped, clasping the stem by their arrow-shaped base; all toothed.

Engl. Bot. t. 843.—Curt. Fl. Lond. t. 123.—Linn. Sp. Pl. p. 1116.—Huds. Fl. Angl. (2nd ed.) p. 336.—Sm. Fl. Brit. v. ii. p. 817. Engl. Fl. v. iii. p. 343.—With. (7th ed.) v. iii. p. 884.—Gray's Nat. Arr. v. ii. p. 419.—Lindl. Syn. p. 156.—Hook. Brit. Fl. p. 339.—Lightf. Fl. Scot. v. i. p. 428.—Sibth. Fl. Oxon. p. 237.—Abbot's Fl. Bedf. p. 169.—Purt. Midl. Fl. v. ii. p. 370.—Relh. Fl Cantab. (3rd edit.) p. 317.—Hook. Fl. Scot. p. 227.—Grev. Fl. Edin. p. 166.-

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Fig. 1. Calyx.—Fig. 2. A separate Floret, showing the germen, pappus, style, and stigma, and the 5 united anthers, b.—Fig. 3. The 5 united Anthers, with their distinct Filaments, and the Style, and Stigma.—Fig. 4. Seed and Pappus.—Fig. 5. The same magnified.—Fig. 6. The receptacle.

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* *Sonchos,* in Greek; from *somphos,* Gr. *soft,* in allusion to the soft nature of the stems. Dr. HOOKER.

† See *Tussilago farfara,* folio 91.

‡ From *æquus,* equal in all parts; the first *order* of the 19th class of the *Linnean System;* comprehending all those plants with compound flowers, in which each separate floret is perfect, being furnished with its own perfect stamens and pistil, and capable of bringing its seeds to maturity without the assistance of any other floret.

§ See *Prenanthes muralis,* folio 27, a.

Fl. Devon. pp. 129 & 154.—Johnston's Fl. of Berwick, vol. i. p. 173.—Walk. Fl. of Oxf. p. 222.—Bab. Fl. Bath. p 28.—Mack. Catal. of Pl. of Irel. p. 69.—*Sonchus lævis*, Ray's Syn. p. 162.—Johnson's Gerarde, p. 292.

Localities.—In cultivated and waste ground. Very common.

Annual.—Flowers from June to September.

Root simple, tapering, fibrous, whitish, and milky. *Stem* from 1 to 3 feet high, upright, branched, round, smooth, hollow, leafy, and very brittle. *Leaves* embracing the stem, smooth on both sides, somewhat succulent, very variable in shape; the lower ones generally pinnatifid or runcinate, the terminal lobe large and triangular; the upper ones frequently entire, egg-shaped, pointed, with a broad base; all more or less toothed, and sometimes very prickly at the edges. *Flower-stalks* cymose or somewhat umbellate, axillary and terminal, clothed, more especially near the flowers, with a peculiarly soft, white cottony web, which after a while falls off, and leaves them smooth and naked. *Bracteas* few, spear-shaped, partly toothed. *Calyx* smooth, glaucous, cylindrical, and truncate before flowering, afterwards bellying out, and forming a cone. *Corolla* pale yellow. *Seed* (fig 5.) oblong, flattened, grooved, roughish. *Down* sessile, simple, very fine.

Few plants are subject to vary so much as the common Sow-thistle. Sir J. E. SMITH and Dr. WITHERING describe 7 varieties; namely—

1. Smooth Jagged Sow-thistle; *Sonchus lævis,* Ray's Syn. p. 162.
2. Smooth Broad Sow-thistle; *S. lævis minor, paucioribus laciniis,* Ray's Syn. p. 163.
3. Prickly Jagged Sow-thistle; *S. asper laciniatus,* Ray's Syn. p. 163.
4. Prickly-dented Sow-thistle; *S. asper non laciniatus,* Ray's Syn. p. 163.
5. Round-leaved Sow-thistle; *S. subrotundo folio nostras, lævissimis spinulis circa foliorum oras exasperatus.* Dill. in Ray's Syn, p. 163.
6. Narrow-leaved Sow-thistle; *S.* αφυλλοκαυλος, *angusto et oblongo folio nostras, per foliorum ambitum creberrimis spinulis asperatus.* Dill. in Ray's Syn. p. 163.
7. Stemless Sow-thistle. This variety was found, by Dr. WITHERING, on Portland Island. The flowers were sessile close upon the root. Possibly the effect of its maritime situation. WITHERING.

The whole plant is milky and bitter, and seems to have nearly the same properties as *Dandelion* and *Succory;* but it appears to have been little regarded as a medicine. It is a favourite food with hares and rabbits; and is said to be eaten by goats, sheep, and swine, but not to be relished by horses. The young tender leaves are in some countries boiled and eaten as greens; and it is even affirmed, that the tender shoots of the smooth variety, boiled in the manner of Spinach, are superior to any greens not in common use.

A very pretty parasitic fungus, *Uredo Sonchi* of Dr. GREVILLE's *Flora Edinensis*, p. 441, is common on the under surface of the leaves of this species, and *Sonchus arvensis,* in the summer.

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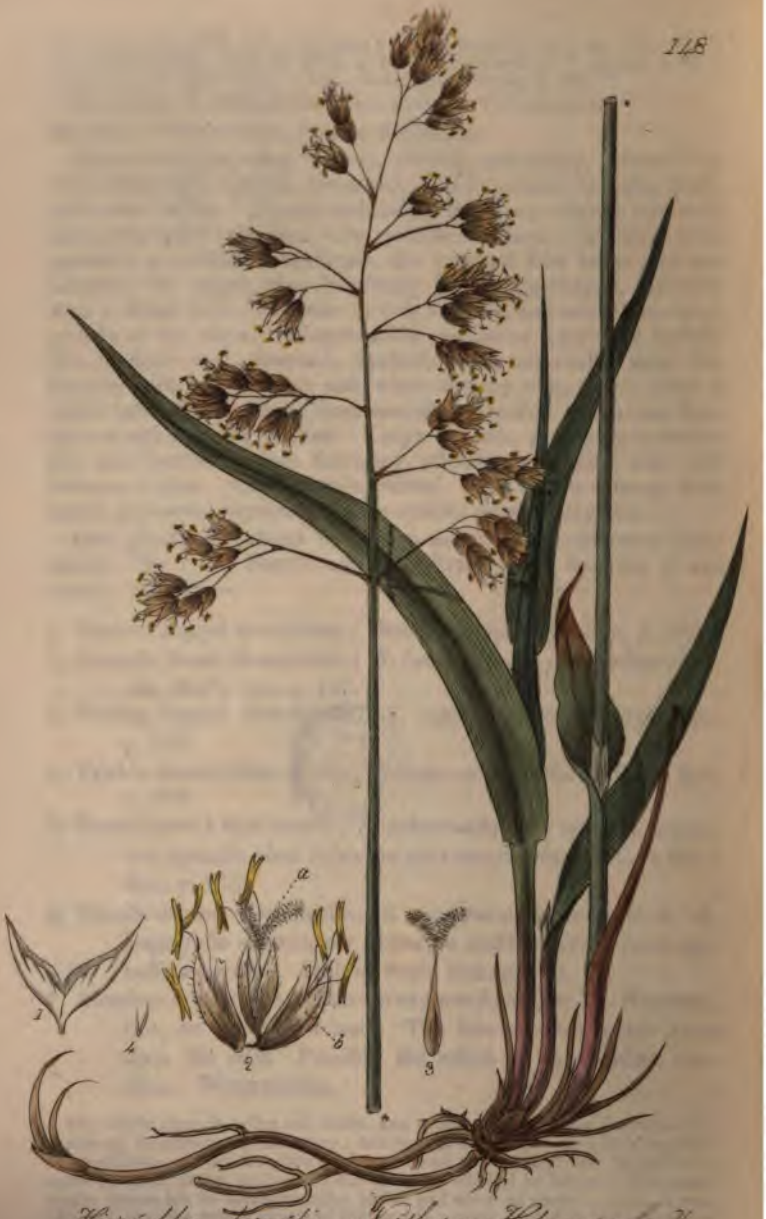

Hieróchloe boreális. Northern Holy-graſs. V

C. Mathews Del. & Sc. Pub^d. by W. Baxter Botanic Garden Oxford 1835.

HIERO'CHLOE[*].

Linnean Class and Order. TRIA'NDRIA[†], DIGY'NIA.

Natural Order. GRAMI'NEÆ, Juss. Gen. Pl. p. 28.—Sm. Gram. of Bot. p. 68.—Lindl. Syn. p. 293.; Introd. to Nat. Syst. of Bot. p. 292.—Loud. Hort. Brit. p. 542.—GRA'MINÆ, *Linn.*—Rich. by Macgilliv. p. 393.—Sm. Engl. Fl. v. i. p. 71.—GRAMINA'LES, Burn. Outl. of Bot. p. 359.

GEN. CHAR. *Panicle* mostly loose. *Calyx* (fig. 1.) of 2, nearly equal, egg-shaped, keeled, pointed, awnless, thin, membranous glumes, containing a *spikelet* of 3 *florets* (see fig. 2.); the terminal one (fig. 2, a.) perfect; lateral ones (fig. 2, b.) barren. *Corolla* (see fig. 2.) of 2 unequal, permanently membranous, paleæ; the outer largest, egg-shaped, firmer than the glumes, ribbed, often rough, sometimes awned at the back; inner much narrower, filmy, awnless, cloven or notched at the summit, inflexed at the margins. *Nectary* (fig. 4.) a membranous scale, various in shape. *Filaments* (see fig. 2.) hair-like, 2 in the perfect floret (fig. 2, a.); 3 in each barren one (fig. 2, b.). *Anthers* (see fig. 2.) strap-shaped, prominent, pendulous. *Germen* (fig. 3.) egg-shaped, small. *Styles* (see fig. 3.) short, close together, distinct. *Stigmas* (see figs. 2 & 3.) longer than the corolla, strap-shaped, feathery. *Seed* egg-shaped, pointed, small, loose, the *corolla* remaining unchanged.

All the known species of this genus, which is a very natural one, are remarkable for a fragrant scent when drying, resembling that of *Anthoxanthum* (see folio 99.), but superior in degree, which is esteemed in Sweden to have a narcotic effect. Sir J. E. SMITH.

Distinguished from other genera with a loose panicle in the same class and order, by the *calyx* of 2 glumes, containing 3 *florets*, the central one perfect, with 2 *stamens;* lateral ones barren, with 3. A permanently membranous *corolla;* distinct *styles;* and loose *seed.*

One species British.

HIERO'CHLOE BOREA'LIS. Northern Holy-grass.

SPEC. CHAR. Panicle upright, somewhat unilateral. Flower-stalks smooth. Florets awnless; outer valve of the Corolla ciliated at the margin.

Engl. Bot. Suppl. t. 2641.—Rœmer and Schultes Systema Vegetabilium, v. ii. p. 513.—Gray's Nat. Arr. v. ii. p. 731.—Sm. Engl. Fl. v. i. p. 110.—With. (7th ed.) v. ii. p. 159.—Hook. Fl. Scot. p. 28.—*Holcus repens,* Host's Gram. Austr. v. iii. t. 3.—*Holcus odoratus,* Linn. Sp. Pl. p. 1485; Flora Suecica, p. 363.—*Poa,* n. 53. Linn. Flora Lapponica, (2nd ed.) p. 30.

Fig. 1. The Calyx or Glumes.—Fig. 2. The 3 Florets; *a,* the intermediate one; *b,* one of the lateral ones.—Fig. 3. Germen, Style, and Stigmas.—Fig. 4. Nectary.

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[*] From *ieros,* Gr. *sacred;* and *chloa,* or *chloe,* Gr. *a grass;* so called by GMELIN, because, in some parts of the Prussian dominions, it is dedicated to the VIRGIN MARY, and strewed before the doors of the churches on festival days; as the *Sweet flag, Acorus calamus,* is in some parts of England.—Dr. HOOKER.

[†] See *Phalaris canariensis,* folio 56, note †.

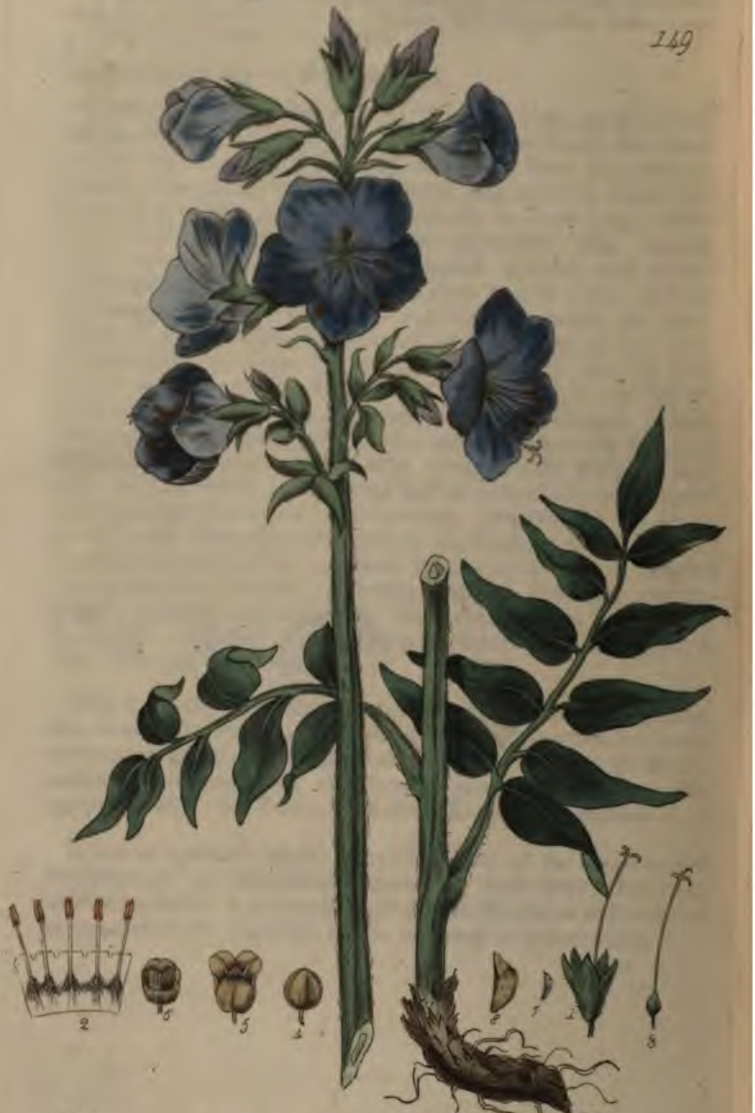
Localities.—In valleys among the Highlands of SCOTLAND.—*Forfarshire;* among the Grampians, in a narrow valley called Glen Kella, where it was discovered by the late Mr. G. Don.

Perennial.—Flowers in May and June.

Root creeping. *Culms* a foot or 18 inches high, upright, round, smooth, leafy in the lower part. *Leaves* rather broad, flat, smooth on both sides, rough at the margins; those from the root strap-shaped, attenuated; from 4 to 6 inches long, revolute when dried; those of the culm spear-shaped, scarcely an inch long; *sheaths* from 2 to 6 inches long, smooth, with permanent ribs. *Stipulas* short, broad, and rather blunt. *Panicle* upright, with slender, somewhat wavy branches, directed most to one side. *Spikelets* egg-shaped, greenish-yellow, variegated with purple or brown. *Florets* 3 in each spikelet, inserted alternately on a very short, smooth, wavy axis (see fig. 2.), the intermediate one (fig. 2, a.) perfect and diandrous; the 2 lateral ones (fig. 2, b.) barren and triandrous. *Glumes* (fig. 1.) nearly equal, egg-shaped, pointed, rather longer than the florets. *Paleæ* unequal; outer one (fig. 2, b.) largest, rough on the back, awnless, fringed at the margin; inner one very thin, white, filmy, about half as wide as the outer, spear-shaped, concave, notched at the summit. *Nectary* (fig. 4.) deeply cloven, with strap-shaped, pointed segments. *Filaments* very slender, hair-like, white. *Anthers* yellow, strap-shaped, attached by the middle, versatile. *Germen* (fig. 3.) somewhat spindle-shaped, smooth, narrowing into the style, which is scarcely half the length. *Stigmas* 2, strap-shaped, feathery. See *Suppl. to Engl. Bot.* and *Sm. Engl. Fl.*

This is an early flowering Grass, and is possessed of considerable nutritive property, yet the powerful creeping roots, its tender nature, and the great deficiency of foliage in the Spring, are demerits which discourage the idea of recommending it to the Agriculturalist. See Sinclair's *Hort. Gram. Woburnensis.*

It has an agreeable scent, resembling that of the *sweet-scented Vernal-grass, Anthoxanthum odoratum,* (folio 99). Linnæus informs us that it is a soporific, and sold in the towns in Sweden to be suspended over the beds, and is supposed to induce sleep.



Polemónium cæruleum. Blue Jacob's Ladder. ♃

I.R.Del. Pub.d by W. Baxter, Botanic Garden, Oxford 1835. C.Mathews Sc.

POLEMO'NIUM[*].

Linnean Class and Order. PENTA'NDRIA[†], MONOGY'NIA.

Natural Order. POLEMONIA'CEÆ, Lindl. Syn. p. 168; Introd. to Nat. Syst. of Bot. p. 219.—Rich. by Macgilliv. p. 443.—Loud. Hort. Brit. p. 526.—POLEMO'NIA, Juss. Gen. Pl. p. 136.—Sm. Gram. of Bot. p. 104.—SYRINGALES; subord. PRIMULOSÆ; sect. SOLANIÆ; type, POLEMONIA'CEÆ; Burn. Outl. of Bot. pp. 900, 958, 982, & 1000.—CAMPANACEÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, permanent, of 1 sepal, divided into 5 broad, somewhat pointed segments. *Corolla* of 1 petal, wheel-shaped; tube very short, closed at the top by 5 convex, downy valves (see fig. 2.); limb large, dilated, spreading, slightly concave, in 5 roundish, blunt, equal segments. *Filaments* (see fig. 2.) 5, awl-shaped, inclining, shorter than the corolla, inserted upon the valves. *Anthers* terminal, upright, oblong, roundish after bursting. *Germen* (see fig. 3.) superior, egg-shaped, pointed. *Style* (see fig. 3.) thread-shaped, as long as the stamens. *Stigma* in 3 pointed revolute segments. *Capsule* (figs. 4, 5, & 6.) egg-shaped, of 3 blunt angles, invested with the permanent calyx, of 3 cells, and 3 valves, opening at the top. *Partitions* contrary to the valves. *Seeds* (figs. 7 & 8.) numerous, oblong, triangular, attached to the innermost angle of each cell.

The 5-cleft *calyx;* wheel-shaped *corolla; stamens* inserted upon the 5 teeth or valves which close the mouth of the tube; and the 3-celled, 3-valved *capsule*, will distinguish this from other genera, with a monopetalous inferior corolla, and numerous covered seeds, in the same class and order.

One species British.

POLEMO'NIUM CÆRU'LEUM. Blue Jacob's Ladder. Greek Valerian. Ladder to Heaven. Setwall.

SPEC. CHAR. Leaves pinnate, smooth. Leaflets oblong-spear-shaped. Flowers upright.

Engl. Bot. t. 14.—Linn. Sp. Pl. p. 230.—Huds. Fl. Angl. (2nd ed.) p. 89.—Sm. Fl. Brit. v i. p. 234. Engl. Fl. v. i. p. 286.—With. (7th ed.) p. 300.—Lindl. Syn. p. 168.—Hook. Brit. Fl. p. 96.—Sibth. Fl. Oxon. p. 76.—Purt. Midl. Fl. v. i. p. 123.; v. ii. p. 731.; and v. iii. p 344.—Hook. Fl. Scot. p. 74.—Grev. Fl. Edin. p. 50.—Walk. Fl. of Oxf. p. 56.—Mack. Catal. of Pl. of Irel. p. 23.—*Polemonium vulgare*, Gray's Nat. Arr. v. ii. p. 341.—*Polemonium vulgare cæruleum*, Ray's Syn. p. 288.—*Valeriana græca*, Johnson's Gerar. p. 1076.

LOCALITIES.—On banks, in moist woods, and bushy places. Rare.—*Oxfordshire;* Near the Plantations, under the Ochre-pits, at Shotover-hill: Dr. SIBTHORP. On the side of the Woodstock road between the first and second milestone from Oxford, 1819: W. B. Not to be found there now; the spot on which I observed it growing, in considerable abundance, previous to 1820, is inclosed,

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Fig. 1. Calyx and Pistil.—Fig. 2. The 5 Stamens, situated on the valves in the mouth of the tube of the Corolla.—Fig. 3. Germen, Style, and Stigma.—Fig. 4. The Capsule.—Fig. 5. The same opening at the top.—Fig. 6. A transverse section of the same, showing the 3 Cells and Partitions.—Fig. 7. A Seed.—Fig. 8. The same magnified.

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[*] From *polemos*, Gr. *war.*—According to PLINY this plant caused a war between two kings, occasioned, as he says, by a disagreement that arose as to which first discovered its uses. Professor BURNETT.

[†] See *Anchusa sempervirens*, folio 48, note †.

and is now under cultivation: W. B. 1835.—*Berksh.* On a ditch-bank near Windsor, but may possibly be the outcast of a garden: Mr. Gotobed.—*Derbysh.* Matlock; Alfreton Brook: Mr. Coke. At the Lover's Leap, Buxton: Mr. Wood. By the side of the turnpike road in Bakewell Meadows: Mr. Whately. On the banks of the Wye between Buxton and Bakewell: Mr. O. Sims. Near Haddon Hall: Mr. W. Christy. Near Derby: Mrs. Acland. Dovedale; Buxton; and near Castleton: Rev. W. T. Bree.—*Lancash.* In the Winyates near Castleton: G. Crossfield, Esq.—*Yorksh.* Near Settle, Ingleton, and Malcomb Cove: Ray, and Teesdale. Gordale, plentifully: Mr. Brunton. In a hollow place in the way from Gordale Scar to Maltham: D. Turner, Esq.—SCOTLAND. On the coast two miles East of Queen's-ferry, growing with *Arundo arenaria*: Mr. Maughan. In Arnistone Woods: Mr. Arnott. Delvine Woods: Mr. Murray. Blackford Hill: Mr. Bainbridge.—IRELAND. Knockmaroon Hill, near the Strawberry Banks: Mr. J. T. Mackay.

Perennial.—Flowers in June and July.

Root fibrous. *Stem* upright, from 1 to 2 feet high, angular, nearly smooth, leafy, hollow, unbranched; panicled at the top. *Leaves* alternate, each leaf composed of many elliptic-spear-shaped, entire *leaflets*, with an odd one of nearly equal size. *Flowers* rather drooping, numerous, their stalks a little downy. *Calyx* bell-shaped, divided about half way down into five oblong, bluntish segments, somewhat downy. *Corolla* between bell-shaped and wheel-shaped, blue, frequently varying to white.

The root-leaves have the greatest number of leaflets; they are sessile, broadest at the base, and somewhat pointed at the summit. The stem-leaves are of the same form, but decrease upwards in size. Besides the variety with white flowers, Linnæus mentions another with variegated flowers; and a third with variegated leaves.

It is a common plant in gardens, where it is easily increased, either by seed, or by dividing the roots. It appears to prefer a shady situation. Old authors reckon this among the *valerians*, with which it has not the least affinity, either in Botanical characters, sensible qualities, or medical virtues.

Polemonia'ceæ.—The few plants which compose this *Natural Order*, are *herbaceous*, monopetalous dicotyledons, with opposite, or occasionally alternate, compound, or simple *leaves*; and upright *stems*, or occasionally, as in *Cobæa*, a climbing one. Each flower is composed of an inferior, monosepalous, 5-parted, permanent *calyx*, which is sometimes irregular; a regular, 5-lobed *corolla*; 5 *stamens* inserted into the middle of the tube of the corolla, and alternate with its segments; a superior, 3-celled *ovary*, with a few or many *ovules*, which are ascending or peltate; a simple *style*; and 3-lobed *stigma*. The *fruit* is a 3-celled, 3-valved, few- or many-seeded *capsule*, with a loculicidal or septicidal dehiscence; the valves separating from the axis. The *seeds* are angular or oval, or winged; sometimes they are enveloped in mucus, and covered with spiral threads. The *albumen* is fleshy or horny, the *embryo* straight, in the axis of the albumen; the *radical* inferior; and the *cotyledons* foliaceous, elliptical, or plain.

Polemonium cæruleum is the only British example of this order.

Most of the *Polemonidceæ* are desirable plants for the flower-garden, many of them, as the various species of *Phlox*, *Gilia*, and *Polemonium*, being very ornamental.

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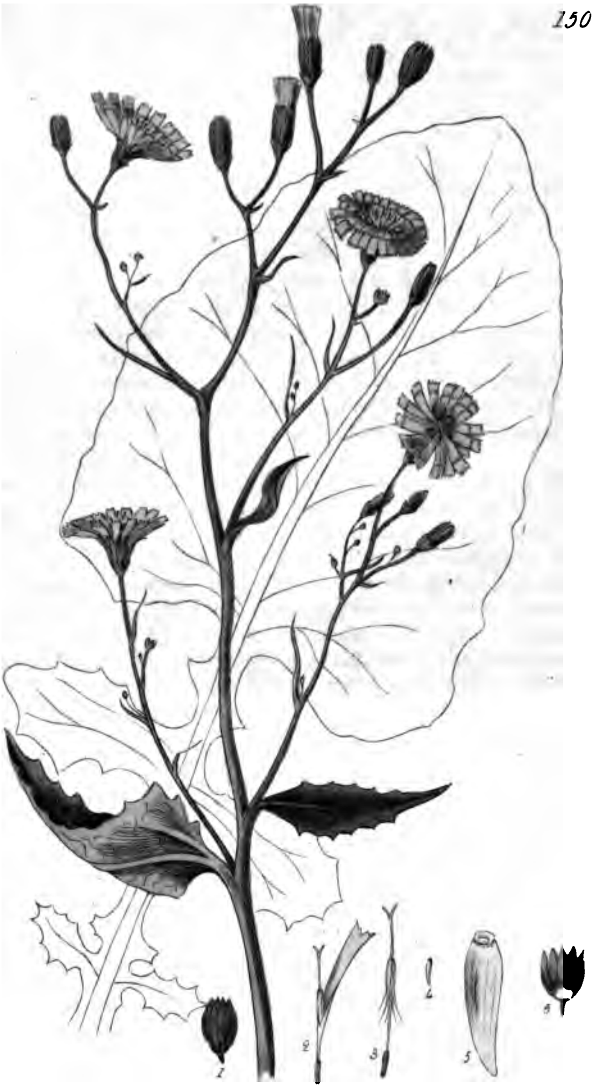

Lapsána commúnis. Common Nipple-wort. ☉

Pub.^d by W. Baxter. Botanic Garden. Oxford. 1835.

I.R. Del.

J. Mathews. S.

LAPSA'NA*.

Linnean Class and Order. SYNGENE'SIA †, POLYGA'MIA EQUA'LIS ‡.

Natural Order. COMPO'SITÆ §, *Adanson.* Tribe, CICHORA'CEÆ, Lindl. Syn. pp. 140 & 142; Introd. to Nat. Syst. pp. 197 & 201.—Loud. Hort. Brit. pp. 520 & 521.—CICHORACEÆ, Juss. Gen. Pl. p. 168.—Sm. Gram. of Bot. p. 120.—SYNANTHE'REÆ, Rich. by Macgilliv. p. 454.—SYRINGALES; subord. ASTEROSÆ; sect. ASTERINÆ: subsect. ASTERIANÆ; type, CICHORACEÆ; Burn. Outl. of Bot. pp. 900, 901, 920, 924, & 935.—COMPOSITÆ, *Linn.*

GEN. CHAR. *Involucrum (common calyx)* (fig. 1.) double, egg-shaped; outermost of a few small, short, egg-shaped or strap-shaped, scattered, close scales; inner of rather more numerous, strap-shaped, channelled, keeled, pointed, nearly equal, permanent ones. *Corolla* compound, imbricated, uniform; *florets* (fig. 2.) several (about 16), perfect, equal, strap-shaped, broadish, blunt, with 5 teeth. *Filaments* (see fig. 3.) 5, hair-like, very short. *Anthers* united into a cylindrical tube. *Germen* (see figs. 2 & 3.) rather oblong, small. *Style* (see fig. 3.) thread-shaped, as long as the stamens. *Stigmas* spreading. *Seed-vessel* none, except the permanent, converging, inner calyx. *Seed* (figs. 4 & 5.) oblong, slightly angular, furrowed, smooth. *Down* none. *Receptacle* (fig. 6.) naked, flat, narrow.

Distinguished from other genera, in the same class and order, by the small scales at the base of the *involucrum;* the naked *receptacle;* and the quickly deciduous *seeds* destitute of *down.*

Two species British.

LAPSA'NA COMMU'NIS. Common Nipple-wort. Swine's Succory. Dock Cress.

SPEC. CHAR. Calyx after flowering angular. Stem branched, panicled, leafy. Leaves egg-shaped, stalked, toothed. Flower-stalks slender.

Engl. Bot. t. 844.—Curt. Fl. Lond. t. .—Linn. Sp. Pl. p. 1141.—Huds. Fl. Angl. (2nd ed.) p. 347.—Sm. Fl. Brit. v. ii. p. 842. Engl. Fl. v. iii. p. 377.—With. (7th ed.) v. iii. p. 903.—Gray's Nat. Arr. v. ii. p. 414.—Lindl. Syn. p.

Fig. 1. Involucrum, or common Calyx.—Fig. 2. A separate Floret.—Fig. 3. The 5 Filaments, with the Anthers united, forming a tube, through which the style passes.—Fig. 4. A Seed.—Fig. 5. The same magnified.—Fig. 6. The Receptacle, with 5 of the scales of the involucrum.

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* From *lapazo*, Gr. *to purge;* from its laxative qualities. HOOKER.

Dr. WITHERING says, that "*Lapsanâ vivere*" is proverbial, signifying to live hard; in allusion to CÆSAR's army, which is reported to have sustained life for some time at Dyrrhachium by using the roots of this herb; but our plant being annual, and its roots little more than fibrous, we apprehend the passage of PLINY, XIX. 9, must refer to some other vegetable. *Bot. Arr.*

† See *Tussilago farfara*, folio 91.

‡ See *Sonchus oleraceus*, folio 147.

§ See *Prenanthes muralis*, folio 27, a.

157.—Hook. Brit. Fl. p. 348.—Lightf. Fl. Scot. v. i. p. 444.—Sibth. Fl. Oxon. p. 242.—Abbot's Fl. Bedf. p. 173.—Purt. Midl. Fl. v. ii. p. 370.—Relh. Fl. Cantab. (3rd ed.) p. 326.—Hook. Fl. Scot. p. 234.—Grev. Fl. Edin. p. 170.—Fl. Devon. pp. 132 & 156.—Johnston's Fl. of Berw. v. i. p. 176.—Walk. Fl. of Oxf. p. 227.—Bab. Fl. Bath. p. 28.—Mack. Catal. of Pl. of Ireland, p. 71.—*Lampsana*, Ray's Syn. p. 173.—Johnson's Gerarde, p. 255.

Localities.—Very common, both on waste and cultivated ground.

Annual.—Flowers from May to August.

Root small, tapering, branched, tough, and fibrous. *Stem* solitary, from 1 to 3 or 4 feet high, upright, roundish, striated, branched, leafy, hollow, nearly or quite smooth in the upper part, hairy in the lower. *Leaves* alternate, pliant and thin; those at the root, and on the lower part of the stem, petiolated, egg-shaped, and often furnished with 1 or 2 pair of pinnulæ; those higher up, spear-shaped; uppermost strap-shaped, sessile; all more or less hairy, and toothed at the margin. *Panicle* repeatedly divided, upright. *Flower-stalks* round, naked, smooth, of equal thickness throughout, each accompanied by a strap-spear-shaped, pointed bractea at its base. *Calyx* smooth, somewhat cylindrical; *outer* scales small, egg-shaped; closely embracing the base of the inner, which are, generally, 8 in number. *Flowers* small, bright yellow; *florets* from 15 to 18. *Styles* purplish. *Stigmas* dark purplish green.

The English name, *Nipple-wort*, alludes to an old idea of the herb curing sore breasts; for which Camerarius reports that it has been used in Prussia. The young leaves in the Spring have the taste of radishes, and are eaten by the inhabitants of Constantinople raw, as a sallad; and in some parts of England they are boiled and used as greens, but have a bitter and disagreeable flavour. According to the observations of Linnæus, cows, sheep, horses, and swine, eat this plant; goats refuse it.

A very pretty parasitical fungus, *Æcidium Compositarum*, of Martius; *Æ. Prenanthis*, of Greville*, is very abundant on the under surface of the radical leaves of this species of *Lapsana*, in the neighbourhood of Oxford, in the months of April and May; and later in the season, both the radical and cauline leaves, frequently become almost completely covered with a more minute parasite, the *Uredo Cichoracearum* of Decandolle & Greville†, which gives the plant the appearance of having been sprinkled all over with a kind of dark rusty-coloured powder.

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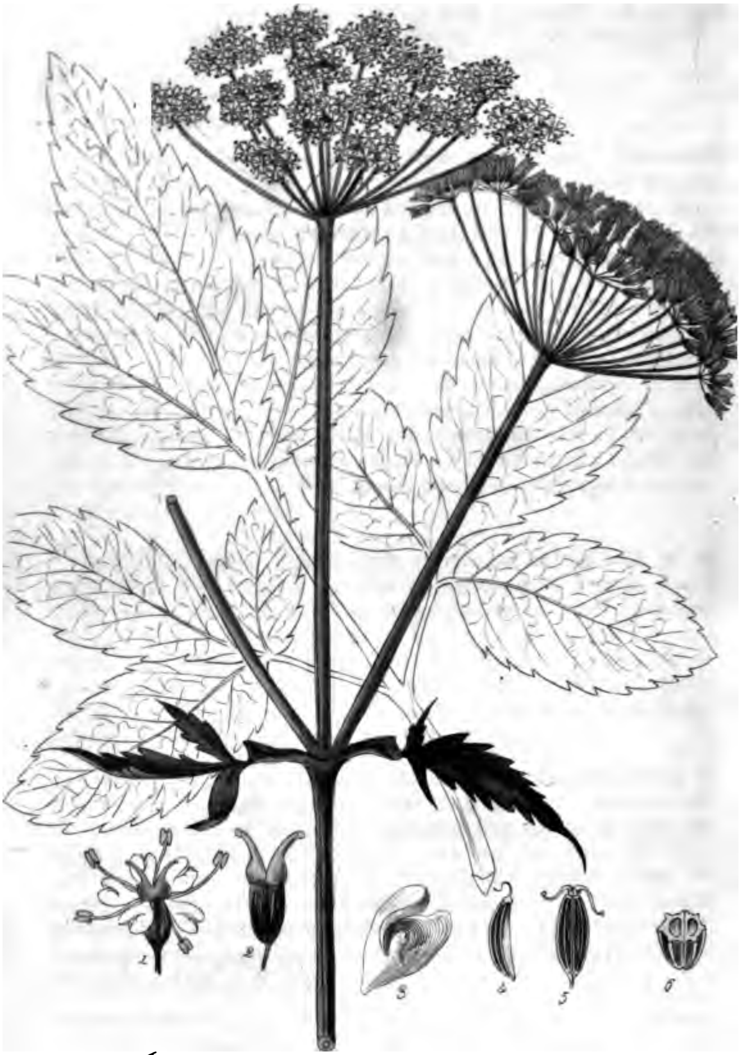
* Flora Edinensis, p. 445. † Ibid, p. 435.



Ægopódium Podagrária. Gout-weed. ♃

Pub.d by W. Baxter, Botanic Garden, Oxford. 1835.   C. Mathews Del. & Sc.

ÆGOPO'DIUM*.

Linnean Class and Order. PENTA'NDRIA†, DIGY'NIA.

Natural Order. UMBELLI'FERÆ, Juss. Gen. Pl. p. 218.—Sm. Gram. of Bot. p. 132.—Lindl. Syn. p. 111; Introd. to Nat. Syst. of Bot. p. 4.—Rich. by Macgilliv. p. 463.—Loud. Hort. Brit. p. 517.—UMBELLATÆ, Linn.—ROSALES; subord. ANGELICOSÆ; sect. ANGELICINÆ; type, ANGELICACEÆ; subtype, ANGELICIDÆ; Burn. Outl. of Bot. pp. 614, 762, 770, 773, & 774.

GEN. CHAR. *Flowers* (see fig. 1.) all perfect and prolific, the outermost only slightly irregular. *Calyx* none. *Corolla* (see fig. 1.) of 5 broad, inversely heart-shaped petals, inflexed at the point; the outer petal, of the marginal flowers, a little the largest. *Filaments* (see fig. 1.) 5, thread-shaped, spreading, the length of the petals. *Anthers* roundish. *Germen* (see fig. 2.) inferior, turbinate, slightly compressed, furrowed, oblique, or not quite equilateral, broadest at the top. *Styles* (see fig. 2.) at first short, upright, tumid and egg-shaped at the base; afterwards elongated, thread-shaped, widely spreading and reflexed, reaching half the length of the fruit (see fig. 5.), permanent. *Stigmas* capitate. *Floral Receptacle* none. *Fruit* (fig. 5.) elliptic-oblong, solid, slightly compressed at the side, crowned with the reflexed styles. *Carpels (seeds* of Linn.*)* (fig. 4.) oblong, imperfectly cylindrical, slightly incurved, each with 5 filiform *ridges*, of which the lateral ones are marginal. *Interstices*, or *Channels*, without *vittæ*. *Seed* taper, convex, flattish in front.—Universal *and* partial involucrums none. Flowers *white*.

The solid, unarmed, oblong, laterally compressed *fruit;* the *carpels* with 5 filiform *ridges;* the *interstices* without *vittæ;* the obsolete *calyx;* the *flowers* uniform and all perfect; the inversely heart-shaped *petals*, inflexed at the point; and the absence of both a general and partial involucrum; will distinguish this from other genera in the same class and order.

Dr. HOOKER observes, that it "differs from *Carum*," the *Caraway*, "only in the absence of vittæ."

One species British.

ÆGOPO'DIUM PODAGRA'RIA. Gout-weed. Herb Gerarde. Ash-weed, or Ach-weed. Wild Masterwort.

SPEC. CHAR. Stem furrowed. Leaves biternate, or triternate. Leaflets oblong-serrated, unequal at the base, lower ones binate.

Fig. 1. A separate Flower, showing the Germen, Petals, Stamens, and Pistils.—Fig. 2. Germen, Styles, and Stigmas.—Fig. 3. A separate Petal.—Fig. 4. A separate Carpel.—Fig. 5. The Fruit with the reflexed Styles.—Fig. 6. A transverse section of the same.—All more or less magnified.

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[*] From *aix*, *aigos*, Gr. *a goat;* and *pous*, Gr. *a foot;* the leaves being cleft something like a goat's foot. HOOKER.

[†] See *Anchusa sempervirens*, folio 48, note †.

Engl. Bot. t. 940.—Linn. Sp. Pl. p. 379.—Huds. Fl. Angl. (2nd ed.) p. 129.—Sm. Fl. Brit. v. i. p. 334. Engl. Fl. v. ii. p. 77.—With. (7th ed.) v. ii. p. 398.—Lindl. Syn. p. 123.—Hook. Brit. Fl. p. 127.- Lightf. Fl. Scot. v. i. p. 170—Sibth. Fl. Oxon. p. 103.—Abbot's Fl. Bedf. p. 69.- Purt. Midl. Fl. v. i. p. 159.—Relh. Fl. Cantab. (3rd ed.) p. 128.—Hook. Fl. Scot. p. 95.—Grev. Fl. Edin. p. 70.—Fl. Devon. pp. 54 & 168.—Johnston's Fl. of Berw. p. 70.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 288.—Walk. Fl. of Oxf. p. 82.—Bab. Fl. Bath. p. 21.—Mack. Catal. of Pl. of Irel. p. 30.—*Ægopodium angelicæfolium*, Gray's Nat. Arr. v. ii. p. 515.—*Angelica sylvestris minor seu erratica*, Ray's Syn. p. 208.—*Herba Gerardi*, Johnson's Gerarde, p. 1001.

Localities.—In low moist cultivated ground, shady waste places, and under hedges.—Frequent.

Perennial.—Flowers in May and June.

Roots creeping very extensively. *Stems* from 1 to 3 feet high, upright, leafy, hollow, furrowed, smooth, slightly branched. *Leaves* compound; *lower ones* twice ternate, stalked; *upper* simply ternate, nearly sessile; the uppermost opposite. *Leaflets* 1 or 2 inches long, or more, egg-shaped, or half heart-shaped, the lateral ones generally unequal at the base, sharply serrated, smooth, dark green, more or less stalked. *Common footstalks* 3-sided, the upper side somewhat channelled; broadly winged at the base. *Umbels* terminal and axillary, large, flattish, with many angular *rays*, finely downy, as are likewise the numerous and slender rays of the *partial umbels*. *General* and *partial Involucrums* none. *Flowers* crowded, white. *Petals* somewhat unequal, inversely heart-shaped, with inflexed points. *Fruit* slightly flattened on the sides, crowned by the elongated, recurved styles. *Seeds (carpels* of Hook.*)* 3-ribbed.

This being a great creeper, is one of the worst plants that can be admitted into a garden; for after it has once established itself, it is almost impossible to eradicate it again. The root is pungently aromatic, with some acrimony, but it is not at all used in medicine; nor has it any title to its name *Gout-weed*, though the Germans formerly used it to assuage the pain both of the gout and piles. Linnæus says it is eaten in Sweden, boiled for greens, when tender in the Spring. The same author also informs us, that cows, sheep, and goats eat it, that horses are not fond of it, and that swine refuse it.

The roots are sometimes sold for those of the true Masterwort, *Imperatória Ostrúthium.*

Puccinia Ægopodii, of Dr. Greville's Flora Edinensis, p. 429, is parasitical on the stems, leaves, and leaf-stalks of this plant, in the neighbourhood of Oxford, in May and June.

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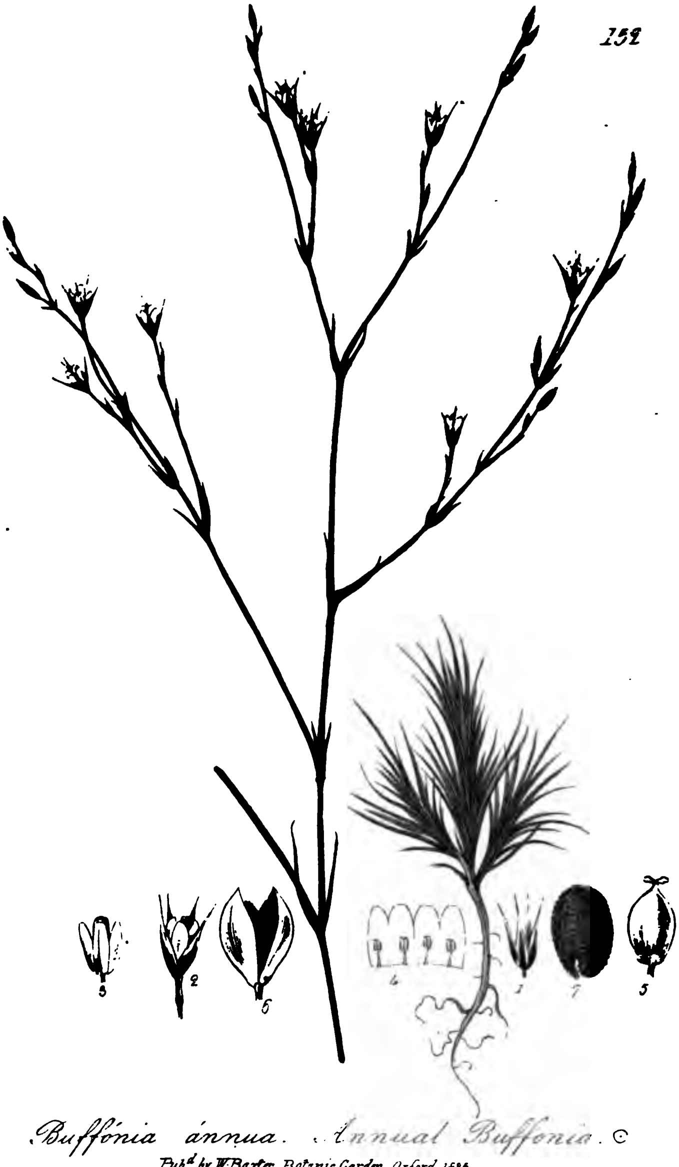

Buffónia ánnua. Annual Buffonia. ☉

Pub.d by W. Baxter. Botanic Garden Oxford. 1835.

C. Mathews Del. & Sc.

(152.)

BUFFO′NIA*.

Linnean Class and Order. TETRA′NDRIA†, DIGY′NIA.

Natural Order. CARYOPHY′LLEÆ, *Linn.*—Juss. Gen. Pl. p. 299.—Sm. Gram. of Bot. p. 159.—Lindl. Syn. p. 43.; Introd. to Nat. Syst. of Bot. p. 156.—Rich. by Macgilliv. p. 507.—Loud. Hort. Brit. p. 501.—ROSALES; subord. RHŒADOSÆ; sect. DIANTHINÆ; type, DIANTHACEÆ; Burn. Outl. of Bot. pp. 614, 784, 805, and 807.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 4 upright, awl-shaped, keeled, equal sepals, membranous at their edges. *Corolla* (see figs. 2 & 3.) of 4 elliptic-oblong, entire, equal, upright petals, shorter than the calyx. *Filaments* (see fig. 4.) 4, awl-shaped, smooth, shorter than the petals. *Anthers* (see fig. 4.) roundish, of 2 cells. *Germen* (see fig. 5.) superior, inversely egg-shaped, flattened. *Styles* (see fig. 5.) 2, short and distant, upright. *Stigmas* capitate. *Capsule* (fig. 6.) oval, flattened, of 1 cell, and 2 valves. *Seeds* (fig. 7.) 2, large, oval, compressed, marked with little tubercules, inserted into the base of the capsule.

The 4-sepaled *calyx;* the *corolla* of 4 entire petals; and the flattened, 1-celled, 2-valved, 2-seeded capsule; will distinguish this from other genera in the same class and order.

One species British.

BUFFO′NIA A′NNUA. Annual Buffonia.

SPEC. CHAR. Stem loosely panicled from the base; branches spreading, short, firm. Stripes on the calyx straight, parallel. Capsules scarcely equal in length to the calyx. Leaves awl-shaped, dilated at the base.

De Candolle's Flore Françoise, v. iv. p. 768.—Gray's Nat. Arr. v. ii. p. 650.—Lindl. Syn. p. 47.—Hook. Brit. Fl. p. 71.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 419.—*Buffónia tenuifólia,* Engl. Bot. t. 1313.—Sm. Fl. Brit. v. i. p. 191.; Engl. Fl. v. i. p. 225.—With. (7th ed.) v. ii. p. 244.—*Bufónia tenuifólia,* Linn. Sp. Pl. p. 179?—Hud. Fl. Angl. (2nd ed.) p 72.—*Alsine polygonoides tenuifolia, flosculis ad longitudinem caulis velut in spicam dispositis nostra,* Ray's Syn. p. 346.

LOCALITIES.—On the sea shore. Very rare.—*Lincolnshire;* About Boston: PLUKENET.—*Middlesex;* On Hounslow Heath: Mr. DOODY.

Annual.—Flowers in June and July.

Root long, slender, somewhat branched, with small white fibres. *Stem* from 6 to 18 inches high, upright, round, clothed with very

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Fig. 1. Calyx.—Fig. 2. Calyx and Corolla.—Fig. 3. Corolla.—Fig. 4. Stamens and Petals.—Fig. 5. Germen and Pistils.—Fig. 6. Capsule, with the valves separating, and exposing the 2 seeds.—Fig. 7. One of the seeds.—All more or less magnified.

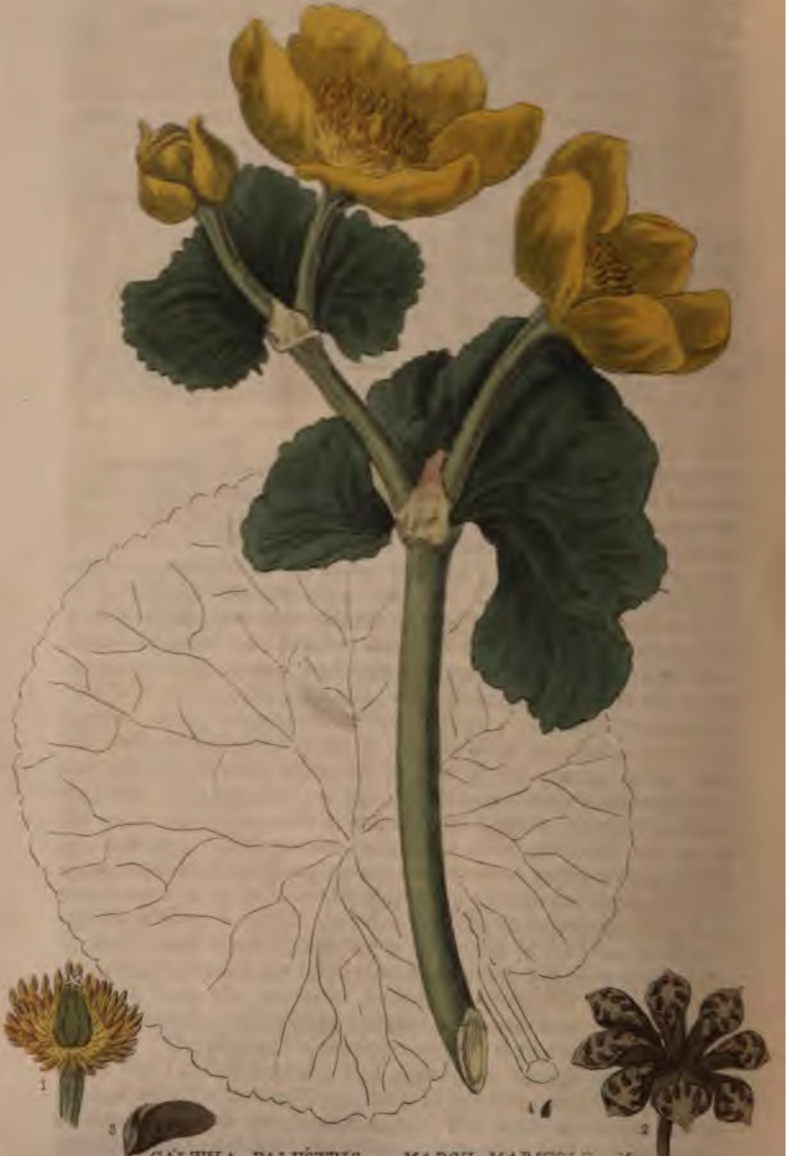
* So named by SAUVAGES, in honour of his countryman, the celebrated COUNT DE BUFFON, who was born at Montbard, in Burgundy, the 7th of September, 1707; and died on the 16th of April, 1788, in the 81st year of his age. He was a man of uncommon genius and surprising eloquence, and is said to have spent fourteen hours every day in study. His celebrated Natural History is well known. The specific name, *tenuifolia,* is understood to convey a satire on his *slender* pretensions to Botanical distinction.

† See *Asperula odorata,* folio 46, note †.

minute, transparent, pointed protuberances, generally branched at the base; branches loosely spreading, and procumbent; there are also smaller branches higher up, which are straight and subdivided. *Leaves* opposite, awl-shaped, combined by their broad, sheathing bases, 3-ribbed, smooth, their margins minutely fringed. *Flowers* small, white, solitary, upright, on terminal or axillary roughish *stalks*. *Sepals* (see fig. 1.) egg-spear-shaped, pointed, each with 3 close ribs, and broad, membranous margins. *Petals* (see fig. 3.) membranaceous, blunt, rather more than half the length of the sepals. It has sometimes only 2 stamens.

We may consider this plant as a doubtful native, as it is said not to have been found on Hounslow Heath by any Botanist except Mr. DOODY.—"The late Sir JOSEPH BANKS, who often examined the coast near Boston, was persuaded that *Bupleurum tenuissimum* had been mistaken for *Buffonia;* yet PLUKENET and DILLENIUS certainly knew the latter perfectly, and the original specimen in the British Museum is right." Sir J. E. SMITH, in *Engl. Fl.*

CARYOPHY'LLEÆ.—This *Order* is composed of dicotyledonous, *herbaceous*, or occasionally somewhat *shrubby*, plants, with knotted *stems*, and opposite, entire *leaves*, which are often united (connate) at their base. Their *flowers* are terminal, solitary, or disposed in racemes, panicles, or corymbs, and are either white, yellow, red, or the shades between these colours. The *calyx* is composed of 4 or 5 sepals, continuous with the peduncle; either distinct or united together into a tube, which is 4- or 5-toothed, constantly imbricate in æstivation, and usually permanent. The *corolla* consists of 4 or 5 petals, commonly clawed (unguiculate) at the base, inserted upon the pedicel of the ovarium; occasionally wanting. The *stamens* are either equal in number with the petals, or double that number, inserted upon the pedicel of the ovarium along with the petals; the *filaments* are awl-shaped, sometimes monadelphous; the *anthers* 2-celled, with 2 longitudinal fissures, usually inserted by their base. The *germen (ovarium)* is inserted on the top of a pedicel (called the gynophorus), and crowned by the styles, which vary from 2 to 5, each terminating in an awl-shaped *stigma*. The *capsule* is 2- to 5-valved, united at the base and opening at the top, toothed; teeth equal in number to the valves of the capsule, sometimes entire, sometimes bifid, usually 1-celled, but sometimes 2- to 5-celled, from the partitions jutting out from the valves to the central placenta; sometimes incomplete, sometimes continuous to the axis. The *placenta* is always central, it is free and rather conical in the 1-celled capsule, and sometimes, though seldom, continuous with the base of the styles; in the many-celled capsules it is connected with the dissepiments. The *seeds* are indefinite in number, rarely definite; the *albumen* is mealy; and the *embryo* is curved round the albumen, with the *radical* pointing towards the hilum.—See *Lind. Syn.* and *Don's Gen. Syst. of Gard. & Bot.*



CALTHA PALUSTRIS. *MARSH-MARIGOLD.* ♃.

Russell del. *Pub.d by W.Baxter, Botanic Garden, Oxford.* [illegible] *Whessell sc.*

CA'LTHA*.

Linnean Class and Order. POLYA'NDRIA†, POLYGY'NIA.

Natural Order. RANUNCULA'CEÆ‡, Juss. Gen. Pl. p. 231.—Sm. Gram. of Bot. p. 136.—Lindl. Syn. p. 7. Introd. to Nat. Syst. of Bot. p. 6.—Rich. by Macgilliv. p. 465.—Loud. Hort. Brit. p. 495.—ROSALES; sect. RANUNCULINÆ; subsect. RANUNCULIANÆ; type, RANUNCULACEÆ; subtype, HELLEBOREÆ; Burn. Outl. of Bot. pp. 614, 828, 832, 837, & 839.

GEN. CHAR. *Calyx* none. *Corolla* (*calyx* of HOOKER) of 5 or more, inferior, egg-shaped, or elliptical, nearly flat, spreading petals, *Nectaries* none. *Filaments* (fig. 1.) numerous, thread-shaped, shorter than the corolla. *Anthers* terminal, upright, oblong, of 2 lobes, bursting at the outer edges. *Germens* (see fig. 1.) superior, 5 to 10, upright, oblong, compressed. *Styles* none. *Stigmas* blunt. *Capsules (follicles)* (figs. 2 & 3.) as many as the germens, cylindrical, pointed, compressed, spreading, bursting at the upper edge. *Seeds* (fig. 4.) numerous, arranged along the margins of the capsule, egg-shaped, with a small rounded prominence at the extremity.

The *corolla* of 5 or more petals; the compressed, spreading, many-seeded *follicles*, 5 to 10 in number; and the absence of a *calyx* and *nectaries;* will distinguish this from other genera in the same class and order.

Two species British.

CA'LTHA PALU'STRIS. Common Marsh-marigold. Meadow-bouts. Gowans. Mare-blobs. Golden-knobs.

SPEC. CHAR. Stem upright. Leaves heart-shaped, rounded, crenate. Flowers large, yellow.

Engl. Bot. t. 506.—Curt. Fl. Lond. t. .—Linn. Sp. Pl. p. 784.—Huds. Fl. Angl. (2nd ed.) p. 245.—Sm. Fl. Brit. v. ii. p. 599. Engl. Fl. v. iii. p. 59.—With. (7th ed.) v. iii. p. 687.—Gray's Nat. Arr. v. ii. p. 714.—Lindl. Syn. p. 12.—Hook. Brit. Fl. p. 268.—Lightf. Fl. Scot. v. i. p. 298.—Sibth. Fl. Oxon. p. 176.—Abbot's Fl. Bedf. p. 124.—Purt. Midl. Fl. v. i. p. 257.—Relh. Fl. Cantab. (3rd ed.) p. 227.—Hook. Fl. Scot. p. 176.—Grev. Fl. Edin. p. 127.—Fl. Devon. pp. 95 & 194.—Johnst. Fl. of Berw. v. i. p. 125.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 43.—Walk. Fl. of Oxf. p. 159.—Curt. Brit. Entom. vol. v. t. 224.—Bab. Fl. Bath. p. 2.—Mack. Catal. of Pl. of Irel. p. 53.—*Caltha palustris major*, Johnson's Gerarde, p. 817.—*Populago*, Ray's Syn. p. 272.

LOCALITIES.—Marshy meadows, watery places, and about the margins of ponds, rivers, and brooks. Common.

Perennial.—Flowers in March, April, and May.

Root of many, round, thick, white fibres. *Stems* several, nearly upright, from 12 to 18 inches high, round, hollow, smooth, leafy,

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Fig. 1. Stamens and Pistils.—Fig. 2. Capsules.—Fig. 3. A separate Capsule.—Fig. 4. A Seed.

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* From *kalathos*, Gr. a *cup*, which its flowers resemble. HOOKER.

† See *Anemone nemorosa*, f. 43, n. †. ‡ See *Clematis vitalba*, f. 129, a.

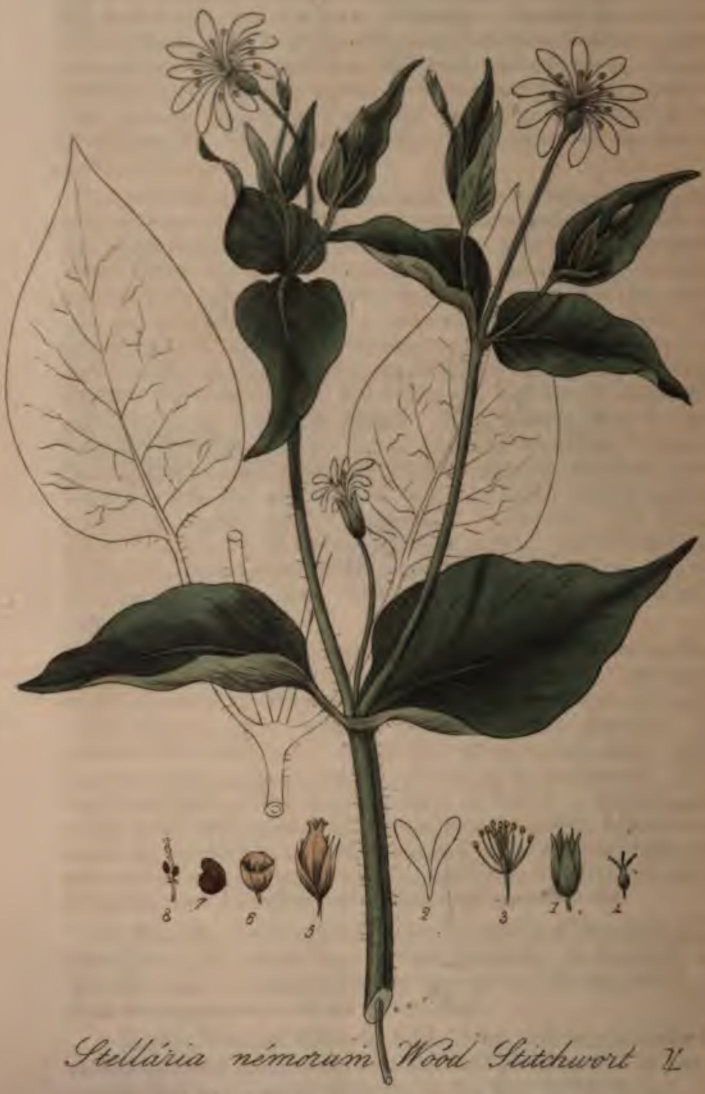
slightly branched, purplish at the base. *Leaves* large, variously heart-shaped, crenate, smooth, and shining; the lowermost on long, somewhat triangular, *footstalks;* upper smaller, nearly sessile, alternate, more triangular, and more acutely crenate than the lower. *Stipulas* brown, membranous, withering. *Flowers* several, (from 3 to 5,) large, showy, bright yellow, on alternate, solitary, slightly furrowed, stalks. *Petals* 5, an inch long, roundish-oval. *Stamens* numerous, in two rows, inner row with broad anthers; outer row twice as long, club-shaped, with the anthers compressed. *Pistils* from 5 to 10. *Seeds* beautiful, of an olive colour at the bottom, and a reddish colour at top.

A small variety of this plant, with more reclining stems, each bearing only from 1 to 3 flowers, with petals only about half the size of the common one, is sometimes met with in marshy places. I have found it in a boggy place near Stow Wood, about four miles from Oxford.—Sir J. E. SMITH observes, that possibly this variety may render *Caltha radicans* a somewhat doubtful species. Drs. WITHERING, HOOKER, and GREVILLE, consider *C. radicans* (Eng. Bot. t. 2175, and Linn. Tr. v. viii. t. 17.) a variety only of *C. palustris.* Sir J. E. SMITH, Dr. LINDLEY, and Mr. G. DON, have published it as a distinct species. N. J. WINCH, Esq. an indefatigable Botanist, informs us, in his very excellent "Flora of Northumberland and Durham," that he believes the late JAMES DICKSON was the only Botanist who ever found *Caltha radicans* wild; but in what part of Scotland he knows not. Mr. WINCH says, "it still keeps its habit, and the triangular shape of its leaves, in the Botanic Gardens of Edinburgh and Cambridge, and with EDWARD FORSTER, Esq. in Essex; and certainly is entitled to rank as a species.

Caltha palustris is a great ornament to our meadows in March and April, and sometimes even as early as February. The flower-buds, preserved in salted vinegar, are a good substitute for capers, which they resemble, except in having numerous germens. The juice of the petals, boiled with a little alum, stains paper yellow, but the colour, so produced, is said not to be permanent. It has been conjectured, that the yellowness of butter in the Spring, is owing to the cattle having fed on this plant; but this, LINNÆUS informs us, is certainly a mistake, as cows will not eat it unless compelled to do so by extreme hunger; and then, BOERHAAVE says, it occasions such an inflammation that they generally die.

On May-day, country people strew the flowers of this plant before their doors, and wreath them in their garlands. In Lapland, it is the first flower that announces the approach of Spring, although it does not appear there till the end of May.

A double-flowered variety is often cultivated in gardens; this variety has been found wild on Coldham Common, and in Grandchester Meadow, Cambridgeshire, by the Rev. R. RELHAN.



Stellária némorum Wood Stitchwort ♃

I.R. Del.

Pub^{d} by W. Baxter. Botanic Garden. Oxford. 1835.

C. Mathews Sc.

STELLA'RIA*.

Linnean Class and Order. DECA'NDRIA†, TRIGY'NIA.

Natural Order. CARYOPHY'LLEÆ‡, *Linn.*—Juss. Gen. Pl. p. 299.—Sm. Gram. of Bot. p. 159.—Lindl. Syn. p. 43; Introd. to Nat. Syst. of Bot. p. 156.—Rich. by Macgilliv. p. 507.—Loud. Hort. Brit. p. 501.—ROSALES; subord. RHŒADOSÆ; sect. DIANTHINÆ; type, DIANTHACEÆ; Burn. Outl. of Bot. pp. 614, 784, 805, & 807.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 5 egg-spear-shaped, concave, pointed, spreading, permanent sepals. *Corolla* of 5 deeply cloven, spreading, flat, oblong petals, without claws or scales (fig. 2.). *Filaments* (fig. 3.) 10, (sometimes, from abortion, only from 3 to 8,) thread-shaped, shorter than the petals, the 5 alternate ones shortest. *Anthers* roundish. *Germen* superior, roundish. *Styles* (fig. 4.) 3, hair-like, spreading. *Stigmas* blunt, downy. *Capsule* (fig. 5.) egg-shaped, cylindrical, or globular, covered by the calyx and shrivelled corolla, of 1 cell (see fig. 6.), and 6 valves. *Seeds* (fig. 7.) numerous, roundish, compressed.

Distinguished from other genera, in the same class and order, by the *calyx* of 5 sepals; the *corolla* of 5 deeply cloven, spreading petals; and the 1-celled, many-seeded *capsule.*

Eight species British.

STELLA'RIA NE'MORUM. Wood Stitchwort. Broad-leaved Stitchwort.

SPEC. CHAR. Lower leaves heart-shaped, stalked; upper egg-shaped or spear-shaped, almost sessile. Panicles repeatedly forked. Petals twice as long as the calyx. Seeds roundish, compressed, with a tubercled margin.

Engl. Bot. t. 92.—Linn. Sp. Pl. p. 603.—Huds. Fl. Angl. (2nd. ed.) p. 190.—Sm. Fl. Brit. v. ii. p. 473. Engl. Fl. v. ii. p. 300.—With. (7th ed.) v. ii. p. 546.—Gray's Nat. Arr. v. ii. p. 657.—Lindl. Syn. p. 52.—Hook. Brit. Fl. p. 204.—Lightf. Fl. Scot. v. i. p. 228.—Purt. Midl. Fl. v. i. p. 213.—Hook. Fl. Scot. p. 135.—Grev. Fl. Edin. p. 97.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 427.—Perry's Plantæ Varvic. Selectæ, p. 40.—*Alsine montana folio smilacis instar, flore laciniato,* Dill. in Ray's Syn. p. 347.

LOCALITIES.—In woods, and moist shady places, in the North of England, and Lowlands of Scotland. Rare.—*Cheshire;* Shady woods near Stockport: Mr. G. HOLM.—*Cumberland;* Cooms Wood, and Dunmallet: HUTCHINSON. By Aspatria Mill: Rev. J. DODD.—*Durham;* In Eglestone, Lambton, Cawsey, Beamish, and Ravensworth Woods; and in hedges at Witton-le-Wear, and Baydales, near Darlington; also on the banks of Wear, at Chester-le-Street new bridge: N. J. WINCH, Esq. in Fl. of Northumberland and Durham. Near Westonhope, Weardale: W. C. TREVELYAN, Esq. In Cocken Woods: W. WEIGHELL's Herbarium.—*Lancash.* Every where in this county: HUDSON.—*Northumberland;* On the island near Hazle-side Stream, Alnwick: Mr. J.

Fig. 1. Calyx.—Fig. 2. A separate Petal.—Fig. 3. Stamens, Germen, and Pistils.—Fig. 4. Germen and Pistils.—Fig. 5. Capsule, with the permanent Calyx.—Fig. 6. Transverse section of the Capsule.—Fig. 7. A Seed, magnified.—Fig. 8. Central Column or Receptacle of the Seeds.

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* From *stella, a star;* because the corolla is spread in a star-shaped manner. HOOKER.

† See *saponaria officinalis,* f. 37, n. †. ‡ See *Buffonia annua,* f. 152, a.

Davison. By the brook at Simonburn: Wallis. Wood on the Irthing above Wardrew; hedges between Wylam and Ovingham; banks of the Tyne between Lemmington and Newburn: N. J. Winch, Esq.—*Warwicksh.* "It is rather extraordinary that this plant has sprung up annually in a shady part of my garden for some years, and has not yet been found any where else in the neighbourhood." T. Purton, Esq. in Midl. Flora.—*Westmoreland;* By Casterton Mill near Kirby Lonsdale, and other parts of the county: Sir J. E. Smith. Near Kendal: Mr. Gough.—*Yorksh.* In Bingly Park: Dr. Richardson. By rivulets, and in shady moist woods about Castle Howard: Teesdale. At the bottom of the Garths at Coxwold: Rev. Archdeacon Pierson. About Leeds, plentifully: Rev. W. Wood. Studley, and Hackfall Woods: Mr. Brunton. Sides of Weathercoat Cave: D. Turner, Esq.—WALES. *Flintsh.* In a hedge close to the river about 100 yards above the Ford at Rhyd y Ddae Dwfr, betwixt St. Asaph and Rhyddlan, and on the Rhyddlan side of the river: Bingley.—SCOTLAND. Frequent in the Lowlands, as about Broomholm and Langholm, in Eskdale, and at Springkeld and Hoddam-Castle; in Annandale, abundantly: Lightfoot. At Meavis-Bank: Dr. Parsons. On the banks of the North and South Esk: Mr. Maughan. Woods at Castlemilk, Wood-hall, and Hamilton: Mr. Hopkirk.

Perennial.—Flowers in May and June.

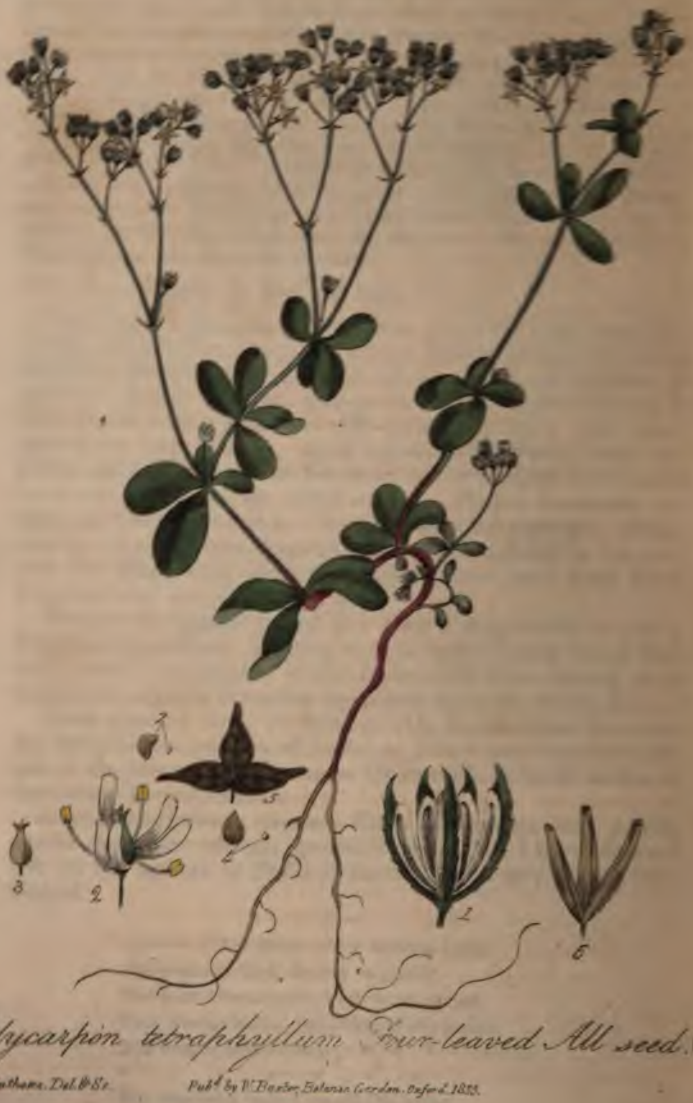
Root slender, creeping. *Stems* from 1 to 3 feet high, weak and brittle, round, hollow, hairy, and often a little swollen at the joints, where it is frequently of a purplish colour; forked and panicled at the top. *Leaves* opposite, pale-green, entire, slightly weaved at the margins, tender and somewhat succulent; lower ones heart-shaped, on long petioles: upper egg-shaped, pointed, large and nearly sessile; all more or less hairy on the margins and on the veins and mid-rib of the under surface. *Flowers* numerous, upright, on downy peduncles. *Sepals* with white margins. *Petals* (see fig. 2.) pure white, spreading, each divided almost to the base into two divaricating segments. *Styles* never more than three. *Capsules* bend down as they ripen.

The general appearance of this plant is very similar to that of *Cerastium aquaticum*, but they may be easily distinguished from each other by the number of the styles; this never having more than three, while in *Cerastium aquaticum* there are always five.

Uredo Cerastii, Grev. Fl. Edin. p. 441, is sometimes found on the leaves of some species of *Stellaria*. I have seen it on the under side of the leaves of the Common Chickweed, *Stellaria media*, in the Oxford Botanic Garden.

Another very minute parasite, *Uredo antherarum*, ibid. p. 443, attacks the anthers of some species of this genus: I have observed this on the anthers of *Stellaria holostea*, in Bagley Wood, near Oxford.

————"The desire which tends to know
The works of God, thereby to glorify
The great Workmaster, leads to no excess
That reaches blame, but rather merits praise
The more it seems excess; * * *
* * * * * * *
For wonderful indeed are all His works,
Pleasant to know, and worthiest to be all
Had in remembrance always with delight."—Milton.



Polycarpon tetraphyllum Four-leaved All seed. ☉

C. Mathews. Del. & Sc. Pub.d by W. Baxter, Botanic Garden, Oxford. 1833.

POLYCA'RPON *.

Linnean Class and Order. TRIA'NDRIA †, TRIGY'NIA.

Natural Order. ILLECEBREÆ, *Dr. R. Brown.*—Lindl. Syn. p. 60.; Introd. to Nat. Syst. of Bot. p. 164.—PARONYCHIEÆ, Rich. by Macgilliv. p. 508.—Loud. Hort. Brit. p. 516.—ROSALES; sect. CRASSULINÆ; type, PORTULACEÆ; subty. POLYCARPIDÆ; Burn. Outl. of Bot. p. 614, 730, & 739.—CARYOPHYLLEÆ, Juss. Gen. Pl. p. 299.—Sm. Gram. of Bot. p. 159.—CARYOPHYLLEI, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 5 concave, keeled, sharp-pointed, permanent sepals. *Corolla* (fig. 2.) of 5 nearly entire petals, shorter than the calyx, and alternate with it. *Filaments* (see fig. 2.) 3, sometimes 5, awl-shaped, half the length of the calyx. *Anthers* upright, 2-lobed. *Germen* (fig. 3.) egg-shaped. *Styles* (fig. 3.) 3, spreading, the length of the germen. *Stigmas* blunt, somewhat capitate. *Capsule* (fig. 4.) egg-shaped, of 1 cell, with 3 egg-shaped, concave valves, (figs. 5 & 6). *Seeds* (fig. 7.) numerous, slightly kidney-shaped, rough, nearly sessile, on an oblong central *receptacle (placenta).*

The *calyx* of 5 sepals; the *corolla* of 5 nearly entire petals; and the 3-valved, many-seeded *capsule;* will distinguish this from other genera in the same class and order.

One species British.

POLYCA'RPON TETRAPHY'LLUM. Four-leaved All-seed.

SPEC. CHAR. Flowers triandrous. Petals notched. Stem-leaves four in a whorl; those of the branches opposite.

Engl. Bot. t. 1031.—Flora Græca, v. ii. p. 4. t. 102.—Linn. Sp. Pl. p. 131.—Huds. Fl. Angl. (2nd ed.) p. 60.—Sm. Fl. Brit. v. i. p. 162. Engl. Fl. v. i. p. 189.—With. (7th ed.) v. ii. p. 210.—Lindl. Syn. p. 61.—Hook. Brit. Fl. p. 59.—Fl. Devon. pp. 24 & 185.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 93.—*Polycárpon tetraphy'llon,* Gray's Nat. Arr. v. ii. p. 547.—*Anthyllis marina incana alsinefolia,* Johnson's Gerarde, p. 622.

LOCALITIES.—In waste ground on the South coast.—*Devonshire;* On some old walls at Lympstone, near Exeter: Rev. Mr. NEWBERRY. Found in the same place since by Miss FILMORE.—*Dorsetshire;* In the Isle of Portland: HUDSON. On the neck of the Isle of Portland, close to the shingly beach: Rev. Dr. GOODENOUGH. On Chesil Bank: Mr. LAMBERT.—*Yorkshire;* Near Hull: Mr. P. W. WATSON.—WALES. *Glamorganshire;* On sandy wastes between Pyle Inn and the Sea: Dr. TURTON.

Annual.—Flowers from May to September.

Root small, tapering. *Stem* very much branched, spreading on the ground, from 3 to 6 inches long, nearly cylindrical, and rough

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Fig. 1. Calyx.—Fig. 2. Corolla, with the calyx removed, showing the Petals, Stamens, Germen, and Styles.—Fig. 3. Germen and Pistils.—Fig. 4. Capsule.—Fig. 5. Capsule opened, showing the 3 valves and the seeds.—Fig. 6. The same, after it has discharged the seeds.—Fig. 7. A Seed.—All more or less magnified.

* From *poly,* Gr. *many;* and *karpos,* Gr. a *seed;* seeds numerous. DON.

† See *Phalaris canariensis,* folio 56, note †.

with minute pellucid glands. *Leaves* rather succulent, inversely egg-shaped, entire, dark green, smooth, on short leaf-stalks, 2 pair together, crossing each other, so as to resemble a whorl. *Stipulas* opposite, membranous, pointed, jagged. *Flowers* numerous, small, in terminal *panicles*, which are several times forked, with a pair of pointed, membranous *bracteas* at each division. *Sepals* (see fig. 1.) somewhat boat-shaped, sharp pointed, green, with white membranous margins; keeled, the keel furnished with pellucid, glandular teeth. *Corolla* white; petals nearly strap-shaped, very slightly notched at the summit. *Valves* of the *capsule* spear-shaped, turned in at the margins (see fig. 6).

Mr. WOODWARD observes, that it alters its habit so much by cultivation, as hardly to be known at first sight. I have never seen a wild specimen; the accompanying figure was made from a plant in the Oxford Garden, where it has established itself on the borders and walks, near an old Hot-house on the outside of the Garden walls.

ILLECEBREÆ.—This Order consists chiefly of small insignificant, *herbaceous*, or *half-shrubby* branching plants, with opposite or alternate leaves, and membranous *stipulæ*. The *flowers* are minute, with scarious *bracteas;* the *calyx* is composed of 5, seldom of only 3 or 4, sepals, which are either distinct, or more or less united. The *petals*, which are very small, are inserted upon the calyx between the lobes, these are sometimes wanting. The *stamens* are perigynous*, and exactly opposite the sepals, if equal to them in number, but they are sometimes fewer by abortion (see fig. 2.); the *filaments* are distinct; and the *anthers* 2-celled. The *ovary* is superior, with 2 or 3 *styles*, which are either distinct or partially combined. The *fruit* is small, dry, and 1-celled; and is either indehiscent, or opens with 3 valves (fig. 5.). The *seeds* are either numerous, fixed to a free central placenta, or solitary and pendulous from a funicle†, arising from the base of the cavity of the fruit. The *albumen* is farinaceous; the *embryo* cylindrical, lying on one side of the albumen, and curved, more or less, with the radicle always pointing towards the hilum. *Cotyledons* small.—See *Lindl. Syn.* p. 60.

"Ye are the stars of earth,—and dear to me
Is each small twinkling gem that wanders free
'Mid glade or woodland, or by murm'ring stream,
For ye to me are more than sweet or fair,
I love ye for the mem'ries that ye bear
Of by-gone hours, whose bliss was but a dream."

L. A. TWAMLEY.

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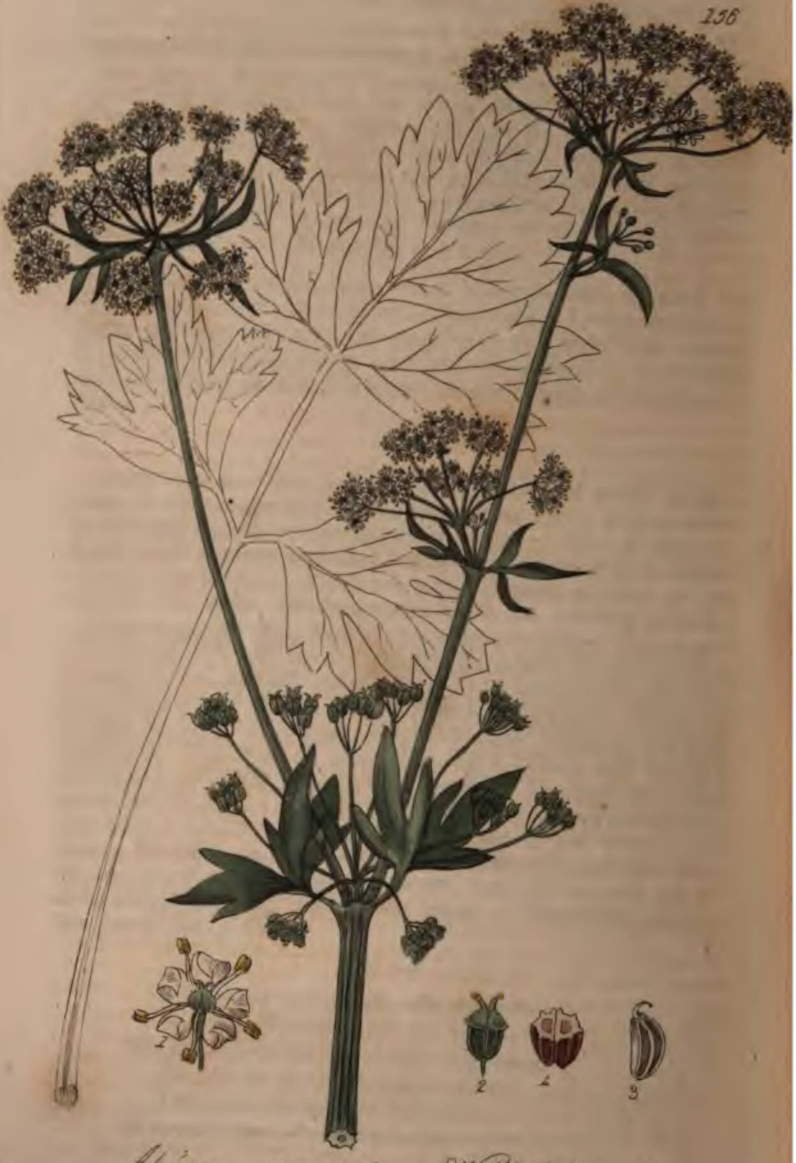
* Inserted in the calyx, or in the disk which adheres to the calyx.

† A little stalk, by which the seed is attached to the placenta.



Apium graveolens. Wild Celery. ♂

C. Mathews Del. & Sc.

Pub.d by W. Baxter, Botanic Garden, Oxford 1835

APIUM *.

Linnean Class and Order. PENTA'NDRIA †, DIGY'NIA.

Natural Order. UMBELLI'FERÆ, Juss. Gen. Pl. p. 218.—Sm. Gram. of Bot. p. 132.—Lindl. Syn. p. 111.; Introd. to Nat. Syst. of Bot. p. 4.—Rich. by Macgilliv. p. 463.—Loud. Hort. Brit. p. 517.—UMBELLATÆ, *Linn.*—ROSALES; subord. ANGELICOSÆ; sect. ANGELICINÆ; type, ANGELICACEÆ; subty. ANGELICIDÆ; Burn. Outl. of Bot. pp. 614, 762, 770, 773, & 774.

GEN. CHAR. ***Flowers*** (see fig. 1.) uniform, and nearly regular, almost all perfect and prolific. Margin of the calyx obsolete. ***Corolla*** (see fig. 1.) of 5 roundish, or inversely egg-shaped petals, with inflexed points, all very nearly equal. ***Filaments*** (see fig. 1.) 5, thread-shaped, about as long as the corolla. ***Anthers*** roundish. ***Germen*** (see fig. 2.) inferior, almost round, somewhat compressed. ***Styles*** (see fig. 2.) at first shorter than the stamens, nearly upright, subsequently elongated, thread-shaped, reflexed; greatly swelled at the base, and subtended by a thin, roundish, wavy ***floral receptacle*** (see fig. 2.). ***Stigmas*** blunt. ***Fruit*** egg-shaped or nearly orbicular, solid, slightly compressed, flattened at the sides, crowned with the withered floral receptacle, and spreading styles. ***Carpels*** (***seeds*** of Linn.) (fig. 3.) egg-shaped, with 3 filiform, equal ***ridges***, of which the lateral ones are marginal. ***Interstices*** with single ***vittæ***, except the outermost, which have sometimes 2 or 3. ***Seed*** very convex, flattish in front. ***Involucrums*** none. ***Flowers*** white or greenish.

The obsolete ***calyx;*** roundish entire ***petals***, inflexed at the point; roundish, double ***fruit***, contracted at the sides; the ***carpels*** with 5 filiform, equal ***ridges***, of which the lateral form a margin; the ***furrows*** between the ribs with single vittæ, except the outermost, which have sometimes 2 or 3; the very convex ***seed***, flattish in front; and the absence of a general and partial involucrum; will distinguish this from other genera in the same class and order.

One species British.

APIUM GRAVE'OLENS. Smallage Parsley. Wild Celery.

SPEC. CHAR. Plant smooth. Leaves pinnate; upper ones ternate; leaflets wedge-shaped, cut and toothed at the apex.

Engl. Bot. 1210.- Linn. Sp. Pl. p. 379.—Huds. Fl. Angl. (2nd ed.) p. 129.—Sm. Fl. Brit. v. i. p. 333. Engl. Fl. v. ii. p. 76.—With. (7th ed.) v. ii. p. 397.—Gray's Nat. Arr. v. ii. p. 524.—Lindl. Syn. p. 123.—Hook. Brit. Fl. p. 129.—Lightf. Fl. Scot. v. i. p. 169.—Sibth. Fl. Oxon. p. 103.—Abbot's Fl. Bedf. p. 69 —Purt. Midl. Fl. v. i. p. 158.—Relh. Fl. Cantab. (3rd ed.) p. 128.—Hook. Fl. Scot. p. 95.—Grev. Fl. Edin. p. 68.—Fl. Devon. pp. 54 & 168.—Loudon's Encycl. of Gardening, (2nd ed.) p. 860.—Baxt. Lib. of Agricul. and Horticul.

Fig. 1. A separate Flower, showing the Petals, Stamens, Germen, and Styles. —Fig. 2. Germen and Styles.—Fig. 3 A single Carpel.—Fig. 4. A Fruit, cut through transversely.—All more or less magnified.

*** From *apon, water,* in Celtic; from the places where the plant grows.**

† See *Anchusa sempervirens,* folio 48, note †.

Knowl. (2nd ed.) p. 137.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 277.—Curt. Brit. Entomol. v. iii. t. 141.—Walk. Fl. of Oxf. p. 82.—Mack. Catal. of Pl. of Irel. p. 30.—*Apium palustre et A. officinarum*, Ray's Syn. p. 214.—*Eleoselinum sive Paludapium*, Johnson's Gerarde p. 1014.

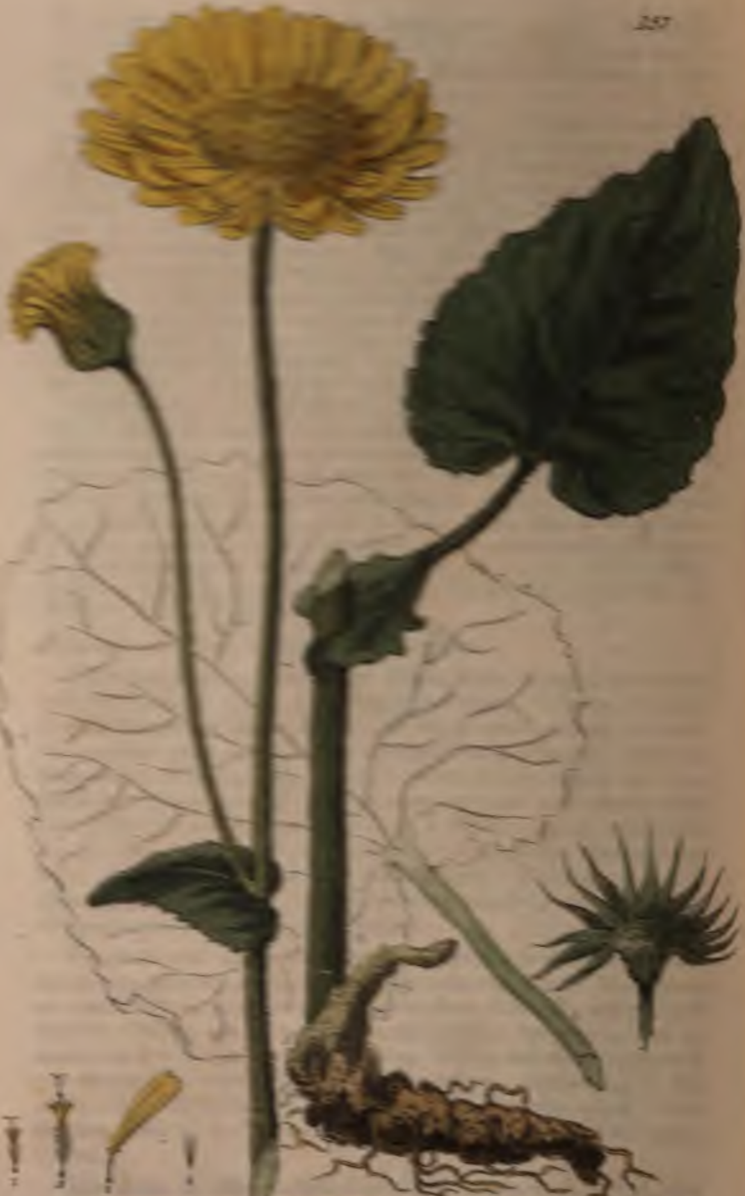
Localities.—In ditches and marshy ground. Frequent.—*Oxfordshire;* Marston; Stanton-Harcourt Common; and South Leigh: Dr. Sibthorp. Near Elsfield: Rev. Mr. Walker.—*Bedfordshire;* At Medbury, Wilshamsted, and Goldington: Rev. C. Abbot.—*Cambridgeshire;* At Spital-house End. Ditch between Trinity Walk, and St. John's Grove, &c.: Rev. R. Relhan.—*Cornwall*; In a bog near Marazion: Mr. Watt.—*Devon;* Topsham Marshes; Lympstone; Hackney Marshes near Kingsteignton; Banks of the Dart near Totness; Kingskerswell, near the church; and near Torquay: Rev. A. Neck.—*Durham;* In Salt Marshes on the rivers Wear and Tees: N. J. Winch, Esq.—*Kent;* In water-courses on the Marsh at Northfleet: Salisbury.—*Lancash.* Near Warrington: G. Crosfield, Esq. of Liverpool. Rimrose Bridge, between Bootle and Crosby, and Park Shore, near Liverpool: Dr. Bostock and Mr. Shepherd.—*Norfolk;* In Salt Marshes near Yarmouth: Mr. Woodward.—*Northumberland;* In Salt Marshes on the river Blyth and Tyne: N. J. Winch, Esq.—*Warwickshire;* In ditches on the road-side between Dunchurch and Southam nearly opposite to the village of Leamington Hastang?—*Worcestershire;* On the canal beyond Droitwich. In a ditch at Upton Snodsbury. It is also to be found at Bretforton, near Badsey: T. Purton, Esq.—*Yorksh.* In a ditch near Coatham: L. E. O. in Mag. of Nat. Hist. v. iii. p. 168.—WALES. *Anglesey;* In the Castle-moat at Beaumares abundantly, and on the banks of most of our rivers near the Sea: Rev. H. Davies.—SCOTLAND. In ditches behind Musselburgh: Dr. Parsons.—IRELAND. In Salt Marshes, common: Mr. J. T. Mackay.

Biennial.—Flowers from July to September.

Root tap-shaped. *Stem* 2 or 3 feet high, upright, branched, smooth, shining, leafy, and deeply furrowed. *Leaves* alternate, pinnate or ternate, bright green; the radical ones on long petioles; the cauline ones nearly sessile; *leaflets* wedge-shaped; entire in their lower part, variously notched, often deeply lobed, in front. *Umbels* of from 5 to 15 unequal rays, terminal and lateral, often almost sessile, accompanied by 1 or 2 ternate leaves, which are greatly diminished, and almost entire. *Umbellules (partial umbels)* very small, without any involucrums. *Flowers* small, numerous, greenish-white. *Fruit* small, roundish, crowned with the permanent, wide-spreading *styles.*

The *seeds*, and whole plant, in its native ditches are acrid and dangerous, with a peculiar rank coarse taste and smell. The effects of cultivation in producing from this plant the mild and grateful Garden Celery, are not a little remarkable; for which, and its name, we are indebted to the Italians. Celery has now supplanted our native Alexanders, *Smyrnium Olusatrum.* According to the observations of Linnæus, sheep and goats eat this plant; cows are not fond of it; horses refuse it. The seeds yield an essential oil.

The larvæ of *Alysia Apii*, Curt. Brit. Entom. v. iii, t. 141, feed on the leaves of the cultivated varieties of this plant.



DORONICUM PARDALIANCHES. *GREAT LEOPARD'S-BANE.* ♃.

Pub.d by W. Baxter, Botanic Garden, Oxford, [illegible] — [illegible]

DORO'NICUM[*].

Linnean Class and Order. SYNGENE'SIA[†], POLYGA'MIA, SUPE'RFLUA[‡].

Natural Order. COMPOSITÆ[§]; tribe, CORYMBI'FERÆ[‖], *Juss.*—Lindl. Syn, pp. 140 & 142.; Introd. to Nat. Syst. of Bot. pp. 197 & 199.—COMPOSITÆ; subord. CARDUA'CEÆ; div. VERNONIA'CEÆ; Loud. Hort. Brit. pp. 520 & 521.—SYNANTHE'REÆ; tribe, CORYMBI'FERÆ; Rich. by Macgilliv. pp. 454 & 455.—CORYMBI'FERÆ, sect. 2. Juss. Gen. Pl. pp. 177 & 180.—Sm. Gram. of Bot. pp. 121 & 123. Engl. Fl. v. iii. p. 334.—SYRINGALES; suborder, ASTEROSÆ; sect. ASTERINÆ; subsect. ASTERIANÆ; type, ASTERACEÆ; Burn. Outl. of Bot. pp. 900. 901, 920, 924, and 926.—COMPOSITÆ, *Linn.*

GEN. CHAR. *Involucrum (common calyx)* (see fig. 5.) of many (from 20 to 50) spear-awl-shaped, equal, upright *scales*, in a double row, longer than the disk. *Corolla* compound, radiant; *florets* of the disk (figs. 1 & 2.) numerous, perfect, tubular, with 5 equal, rather spreading segments; those of the ray (fig. 3.) as many as the scales of the involucrum, or more, strap-shaped, spreading, with from 3 to 5 terminal, equal teeth. *Filaments* 5, in the florets of the disk only; hair-like, very short. *Anthers* united into a cylindrical tube, with 5 notches. *Germen* in all the florets fertile, inversely egg-shaped. *Style* (see figs. 1 & 2.) thread-shaped, somewhat prominent. *Stigmas* small, spreading. *Seed-vessel* none, except the slightly converging calyx. *Seed* inversely egg-shaped, a little compressed, furrowed. *Pappus* (fig. 4.) sessile, simple, hair-like, rough, on the seeds of the disk only, which are hairy; wanting on the seeds of the ray, which are smooth. *Receptacle* (fig. 5.) naked, pitted.

Distinguished from other genera, in the same class and order, by the *involucrum* or *calyx* of a double row of equal scales, which are longer than the disk; the naked *receptacle;* and simple *pappus* on the seeds of the disk only, those of the ray being destitute of pappus.

Two species British?

DORO'NICUM PARDALIA'NCHES[¶]. Great Leopard's-bane. Heart-leaved Leopard's-bane.

SPEC. CHAR. Leaves heart-shaped, toothed; the lowermost on long, naked leafstalks; the intermediate ones with the leafstalks dilated into 2 broad semiamplexicaul (half stem-clasping) ears at the base; the uppermost sessile and amplexicaul. HOOKER.

Engl. Bot. Suppl. 2654.—Hook. Fl. Lond. t. 88.—Jacq. Fl. Austr. t. 350.—Linn. Sp. Pl. p. 1247.—Huds. Fl. Angl. (3rd ed.) p. 650.—Sm. Fl. Brit. v. ii. p. 896. Engl. Fl. v. iii. p. 446.—With. (7th ed.) v. iii. p. 946.—Lindl. Syn. p.

Figs. 1 & 2. Tubular Florets of the Disk.—Fig. 3. A strap-shaped Floret of the Ray.—Fig. 4. The Pappus.—Fig. 5. The Calyx and Receptacle.

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[*] From *doron*, Gr. *a gift;* and *nike*, Gr. *victory;* because it was said to have been formerly used to destroy wild beasts. HOOKER.—Or, from *Doronigi*, the Arabian name of the plant. MARTYN.

[†] See *Tussilago Farfara*, f. 91, n. †. [‡] See *Achillea Ptarmica*, f. 36, n. ‡.

[§] See *Prenanthes muralis*, f. 27, a. [‖] See *Achillea Ptarmica*, f. 36, a.

[¶] From *pardos*, Gr. *a Leopard;* and *agchein*, Gr. to *strangle*, or *destroy;* having been formerly used, mixed with flesh, to poison wild beasts. WITHERING.

147.—Hook. Brit. Fl. p. 364.—Light. Fl. Scot. v. i. p. 485.—Hook. Fl. Scot. p. 245.—Grev. Fl. Edin. p. 179.—Winch's Flora of Northumberland and Durham, p. 54.—Bab. Fl. Bath. p. 25.—*Dorónicum cordifólium*, Gray's Nat. Arr. v. ii. p. 468.—*Doronicum majus officinarum*, Johnson's Gerarde, p. 759. f. 2.

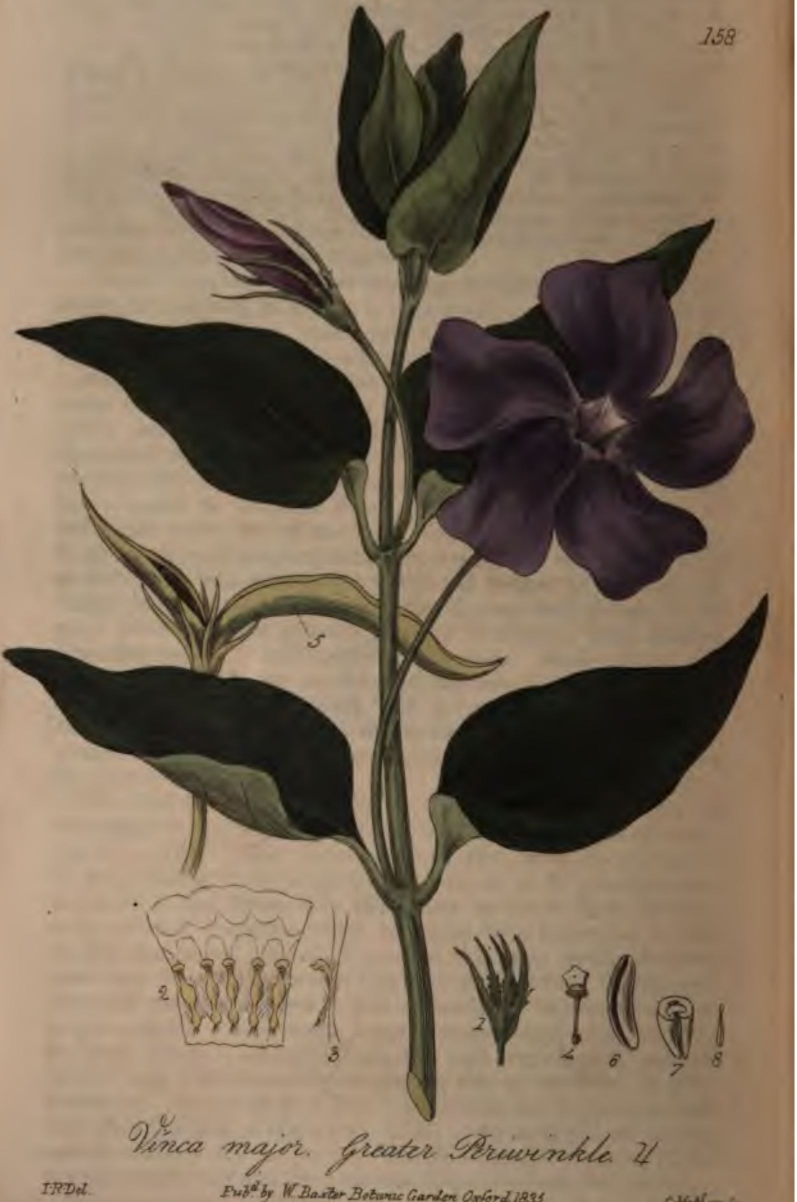
LOCALITIES.—In mountainous pastures, and in woods, and waste places; about old buildings. A doubtful native.—*Durham*; Naturalized on the banks of Wear at Durham, below Mr. Fox's garden: N. J. WINCH, Esq.—*Norfolk*; In woods at Cotton, by Norwich: Dr. LINDLEY, in Fl. Lond.—*Northumberland*; Gathered in the cold mountains of this county by Dr. PENNY: GERARDE.—*Shropsh.* In a hedge by the road from Much-Wenlock, to the Iron Bridge: Rev. S. DICKENSON.—*Yorksh.* Near the World's End, Harrogate: Mr. MANBY.—SCOTLAND. Fields and hedges about Hamilton: Mr. HOPKIRK. Woods near Culross, Den of Dupplin and Rosslyn: Mr. MAUGHAN. Collington: Mr. G. DON. In Dalkeith Park: W. BORRER, Esq. In great plenty at Stobhall, seven miles from Perth; and near Kinnaird, in Angusshire: DON, of *Forfar*.

Perennial.—Flowers from May to August.

Whole *Plant* hairy. *Root* creeping, tuberous at intervals, the tubers transversely furrowed, a little woolly, and somewhat compressed, throwing out from beneath coarse fibres, and from the sides white, fleshy, scaly, horizontal threads, which produce other tubers. *Stem* from 2 to 3 feet high, upright, hollow, furrowed, hairy, branched, and somewhat viscid in the upper part. *Root-leaves* and lowest *stem-leaves* large, heart-shaped, blunt, on long channelled stalks; those on the intermediate part of the stem have the leaf-stalk dilated in two broad, semi-amplexicaul ears, at the base; higher up the stem these ears become confluent with the leaf; and at the top of the stem they are quite lost, the leaves being sessile, and amplexicaul; they are all soft and pliant, hairy on both sides, and more or less waved and toothed at the margins. *Calyx-scales* strap-spear-shaped, pointed, about half as long as the ray. *Flowers* bright yellow. *Ray* of numerous, strap-shaped, spreading florets, 3- to 5-toothed at the apex. *Seeds* oblong, furrowed, those of the ray smooth, and destitute of pappus; those of the disk hairy, and furnished with a crown of sessile, simple, toughish bristles. *Receptacle* nearly flat. The flower which terminates the stem is usually overtopped by succeeding ones from the axillary branches.

The plant figured in *Engl. Bot.* t. 630, as *D. pardalianches*, is now regarded, but with some doubt, as *D. plantagineum* of *Linn. Sp. Pl.* p. 1247. The figure in *Engl. Bot.*, with the exception of the root-leaf, corresponds with specimens of *D. plantagineum* preserved in the *Sherardian Herbarium* in the Oxford Garden; and also with a species which has been long cultivated in the garden, under that name. I received the same species, several years ago, from Mr. MUNTON, Gardener at Brightwell Grove, who informed me that it grew in great abundance in a wood in that neighbourhood. The much larger flowers; very long, narrow, marginal florets; conical receptacle; and egg-shaped, pointed leaves; will, I think, readily distinguish this species from *D. pardalianches*. They both have been cultivated in the English gardens ever since the time of GERARDE (1597); and as they both propagate themselves very fast by their scorpion-like and creeping roots, it is very likely they may have escaped originally from the gardens.

The roots of these species are reputed to be acrid poisons. MATTHIOLUS records the instance of a dog being killed by the root of *D. pardalianches*; and there is reason to believe that the mortal career of the celebrated CONRAD GESNER, the German PLINY, or as BOERHAAVE styles him, that "*Monstrum Eruditionis*," was prematurely closed by experimenting with this fatal herb. See *Engl. Bot.*, WITHERING, &c.



Vĭnca major. Greater Periwinkle. ♃

I.R.Del. Pub^d. by W. Baxter Botanic Garden Oxford 1835. C.Mathews sc.

VI'NCA *.

Linnean Class and Order. PENTA'NDRIA †, MONOGY'NIA.

Natural Order. APOCY'NEÆ, Juss. Gen. Pl. p. 143.—Sm. Gram. of Bot. p. 108.—Lindl. Syn. p. 176.; Introd. to Nat. Syst. of Bot. p. 213.—Rich. by Macgilliv. p. 445.—Loud. Hort. Brit. p. 525.—SYRINGALES; subord. PRIMULOSÆ; sect. GENTIANINÆ; type, STRYCHNACEÆ; subtype, APOCYNIDÆ; Burn. Outl. of Bot. pp. 900, 958, 1008, 1011, & 1012.—CONTORTÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, in 5 deep, upright, pointed, permanent segments. *Corolla* of 1 petal, salver-shaped; tube longer than the calyx, cylindrical in the lower part, wider above, marked with 5 lines; and 5 angles at the mouth; limb horizontal, in 5 deep, oblique, abrupt segments, attached to the top of the tube, spirally imbricated in the bud. *Filaments* (figs. 2 & 3.) 5, from the middle of the tube, short, doubly curved. *Anthers* membranous, blunt, upright, incurved, bearing the pollen at each lateral margin. *Germens* 2, superior, roundish, accompanied by 2 lateral roundish glands. *Style* (fig. 4.) 1, common to both germens, cylindrical, shorter than the tube. *Stigma* 1, capitate, seated on a flat orbicular disk. *Follicles* (fig. 5.) 2, cylindrical, acute, upright, bursting along one side. *Seeds* (fig. 6.) several, oblong, cylindrical, furrowed, naked (destitute of seed-down).

Distinguished from other genera in the same class and order, by the salver-shaped corolla of 5 oblique segments, spirally imbricated in the bud; and the 2 upright follicles, each containing several naked seeds.

Two species British.

VI'NCA MAJOR. Greater Periwinkle.

SPEC. CHAR. Stems ascending. Leaves egg-shaped, fringed. Flowers stalked. Segments of the calyx bristle-shaped, elongated, ciliated.

Engl. Bot. t. 514.—Curt. Fl. Lond. t. 222.—Linn. Sp. Pl. p. 304.—Huds. Fl. Angl. (2nd ed.) p. 91.—Sm. Fl. Brit. v. i. p. 270. Engl. Fl. v. i. p. 339.—With. (7th ed.) v. ii. p. 341.—Gray's Nat. Arr. v. ii. p. 342.—Lindl. Syn. p. 176.—Hook. Brit. Fl. p. 98.—Sibth. Fl. Oxon. p. 79.—Abbot's Fl. Bedf. p 53.—Purt. Midl. Fl. v. i. p. 133.—Relh. Fl. Cantab. (3rd ed.) p. 103.—Hook. Fl. Scot. p. 82.—Grev. Fl. Edin. p. 57.—Fl. Devon. pp. 44 & 153.—Walk. Fl. of Oxf. p. 68.—Perry's Pl. Varvic. Selectæ, p. 23.—Bab. Fl. Bath. p. 30.—Mack. Catal. of Pl. of Irel. p. 25.—*Clematis daphnoides major,* Ray's Syn. p. 268.—Johnson's Gerarde, p. 894.

LOCALITIES.—In woods, thickets, and hedges. Rare.—*Oxfordsh.* In Magdalen College Walks: Dr. SIBTHORP, 1794. Plentiful in the same walks now, 1835; probably planted there originally, but now become naturalized: W. B. By the side of the road near Long Handborough: G. COLES, Esq. Woodstock.—*Berks;* In a hedge near Old Windsor: Mr. GOTOBED.—*Bedfordsh.* Near Ravensden; and Clapham: Rev. C. ABBOT.—*Bucks;* In a hedge near Slough: Mr. GOTOBED. —*Cambridgesh.* Near Girton, Madingley, Coton, Whittlesford, Histon, Rampton, and Bottisham: Rev. R. RELHAN.—*Derbysh.* In Pleasly

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Fig. 1. Calyx.—Figs. 2 & 3. Stamens.—Fig. 4. Germen, Style, and Stigma.—Fig. 5. Follicles.—Fig. 6. A Seed.—Fig. 7. Transverse section of ditto.—Fig. 8. Embryo.

* From *vincio, to bind;* its runners trailing round other plants; or, from its being used, in ancient times, to form the bridal zone which none but the bridegroom was privileged to untie. † See *Anchusa sempervirens,* f. 48, n. †.

Park: Mr. Coke.—*Devon;* In the Rectory Orchard at Alphington: Rev. H. T. Ellicombe. In a hedge near Mamhead Parsonage. Near Ide: Mr. Jacob. By the rivulet in Manadon Wood near Plymouth: Dr. Moore. Near the first milestone on the turnpike road between Plymouth and Tavistock: Rev. J. S. Tozer.—*Essex;* Near Colchester: Dr. Richardson. Hedge in Ribton Lane near Woodford: Mr. R. Warner.—*Hampsh.* To the South of Yarmouth in the Isle of Wight: Dr. Withering.—*Kent;* Between Knowlton and Deal; and near Roehill: Ray. In a field at Beckenham: Curtis. Lanes adjoining East Langdon Church; near Evethorne; and lanes at the back of Hythe: L. W. Dillwyn, Esq. At Sindal farm near Feversham: E. Jacob.—*Lincolnsh.* At Woolsthorpe near Belvoir Castle, on stones near the village: Rev. G. Crabb.—*Middlesex;* In a meadow near Harefield Church: Blackstone.—*Norfolk;* By Honingham Church: Mr. Rigby. Grove at Thorpe: Mr. Woodward.—*Northamptonsh.* At Southorp, Northend, under a wall: Morton.—*Somersetsh.* In Brass-Knocker Wood: Dr. H. Gibbs. In a copse under the brow of the hill North-east of Prior Park: Mr. E. Simms. Near Yeovil: W. H. in Mag. of Nat. Hist. v. iii. p. 174.—*Suffolk;* Near Hawsted Green: Sir T. G. Cullum.—*Surrey;* By the road-side at Dulwich: Dr. Martyn. In a lane leading from Battersea Meadow to Wandsworth: Blackstone.—*Sussex;* At Norlington, and elsewhere about Lewes, but scarcely wild: W. Borrer, Esq.—*Warwickshire;* At King's Coughton, and Oversley: T. Purton, Esq.—*Yorksh.* Banks of the Wharf near Wetherby: Mr. Brunton. At Thormanby near Easingwold and Thrisk: Rev. Archdeacon Pierson. Near Rotherham: Mr. L. Langley, in M. N. H. v. ii. p. 269.—WALES. *Denbighsh.* On the common near Rhyd y Cilgwyn Bridge, between Denbigh and Ruthin: Mr. Griffith.—*Glamorgansh.* Hedges about Parkmill, between Swansea and Penrice.—SCOTLAND. On Dundas Hill: Mr. P. Neill. Collington Woods: Mr. Maughan. In Kelburn and Skilmerlie Woods: Mr. Murray.—IRELAND. Not unfrequent: Mr. Mackay.

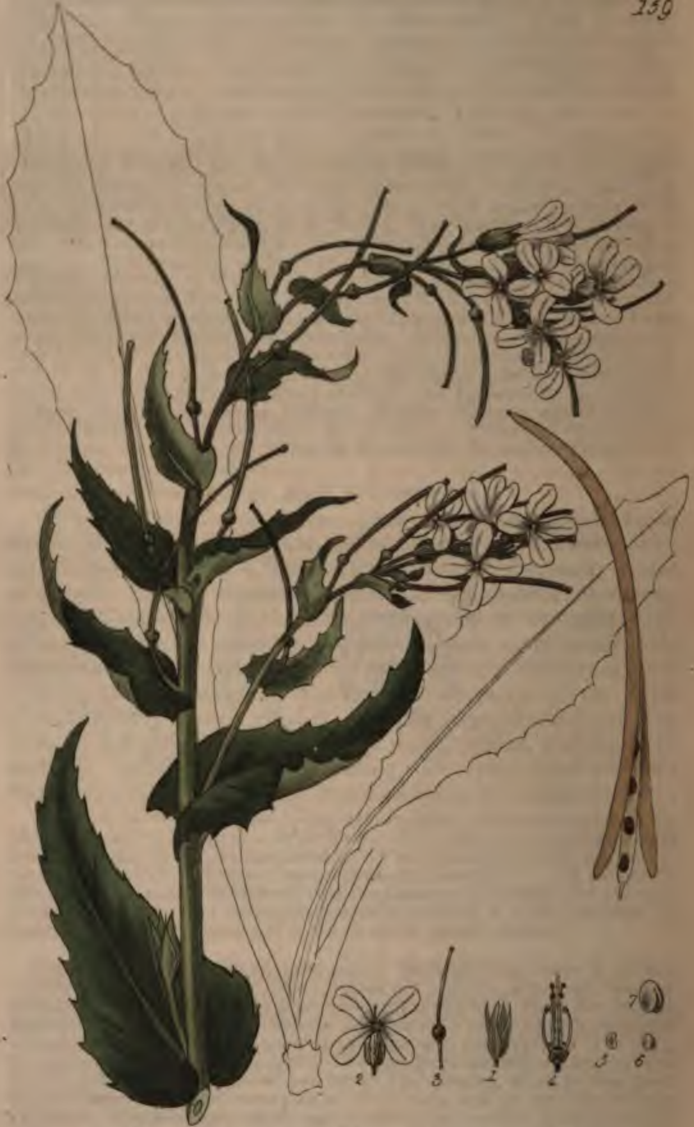
Perennial.—Flowers from April to September.

Root of many strong fibres. *Stems* nearly upright while in flower, afterwards procumbent, and taking root near the extremity; round, but alternately a little flattened, smooth, frequently dotted with red. *Leaves* opposite, petiolated, egg-shaped, evergreen, somewhat succulent, of a shining dark green on the upper side, rather paler on the under, entire, smooth, their margins minutely fringed with short rigid hairs. *Flowers* solitary, axillary, on peduncles half the length of the leaves. *Segments of the Calyx* elongated, very narrow, ciliated. *Corolla* large, of a fine purplish blue, with a whitish mouth, which is woolly within, just above the anthers. *Follicles* unequal, spreading wide apart, filled with several large, oblong, furrowed, brownish *seeds*, one above another.

This, and the other species of *Vinca*, are astringent; they contain gallic acid; and turn solutions of iron of a dense black. They have been recommended as vulneraries, but are not now employed. The curious and beautiful structure of the internal part of the flowers deserves particular investigation. In France the Periwinkle is esteemed as the emblem of the pleasures of memory, and of sincere friendship. In Italy the country people make garlands of it for their dead infants, for which reason they call it *fior di morto* (death's flower).

Apocyneæ.—This Order is composed of dicotyledonous *trees* or *shrubs*, usually with a milky juice. Their *leaves* are opposite, sometimes whorled, seldom scattered, quite entire, often having ciliæ or glands upon the petioles, but with no stipulæ. Their *flowers* are generally produced in a somewhat corymbose manner, but they are sometimes solitary, and axillary. The *calyx* is inferior, permanent, and 5-cleft. The *corolla* monopetalous, hypogynous, regular, 5-lobed, with contorted æstivation. The *stamens*, which are 5 in number, are inserted into the lower part of the corolla, and are alternate with its segments. The *filaments* are distinct; the *anthers* 2-celled, opening lengthwise; the *pollen* granular, globose, or 3-lobed, and immediately applied to the stigma. The *ovaries* are either 2 in number, or one with 2 cells, usually many-seeded; and the *styles* are either 2 or 1, with only 1 *stigma*. The *fruit* is a follicle, capsule, or drupe, or berry, double or single. The *seeds* have a fleshy or cartilaginous *albumen;* a simple *testa;* a foliaceous *embryo*, with an inconspicuous *plumula*, and a *radicle* turned towards the hilum. See *Lind. Syn.*

Vinca is the only British example of this order.



Arabis Turrita. Tower Wall-creſs. ♂

I.R. Del. Pub.d by W. Baxter, Botanic Garden, Oxford 1835. C. Mathews Sc.

A'RABIS[*].

Linnean Class and Order. TETRADYNA'MIA[†], SILIQUO'SA[‡].

Natural Order. CRUCI'FERA[§], Juss. Gen. Pl. p. 237.—Sm. Gram. of Bot. p. 138. Engl. Fl. v. iii. p. 153.—Rich. by Macgilliv. p. 498.—CRUCI'FERÆ; subord. PLEURORHI'ZEÆ[||]; tribe, ARABI'DEÆ[¶], Lindl. Syn. pp. 20 & 22.; Introd. to Nat. Syst. of Bot. pp. 14 to 18.—Loud. Hort. Brit. pp. 498 & 499.; Mag. of Nat. Hist. v. i. pp. 143 & 239.—ROSALES; subord. RHŒADOSÆ; sect. RHÆADINÆ; type, BRASSICACEÆ; subty. ARABIDÆ; Burn. Outl. of Bot. pp. 614, 784, 847, 854, & 856.—SILIQUOSÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) of 4 upright, egg-oblong, converging, deciduous sepals, the two opposite ones rather the largest, and somewhat protuberant at the base. *Corolla* (fig. 2.) cruciform, of 4 inversely egg-shaped, entire, somewhat spreading petals, which taper at the base into broadish claws, nearly as long as the calyx. *Filaments* (fig. 4.) 6, thread-shaped, upright, simple, unconnected, usually with 4 glands at their base externally. *Anthers* roundish-heart-shaped, incumbent. *Germen* (fig. 3.) cylindrical, about the length of the stamens. *Style* very short, or none. *Stigma* blunt, simple. *Pod (siliqua)* strap-shaped, compressed, very long, crowned with the permanent stigma; valves almost flat, ribbed, or veiny, slightly undulated from the protuberance of the seeds, quite as long as the strap-shaped, membranous partition. *Seeds* (fig. 5.) oval, or orbicular, compressed, with or without a border, in 1 row in each cell. *Cotyledons* (figs. 6 & 7.) flat, accumbent, o=.

The strap-shaped *pod*, with flat, veiny or nerved *valves;* and the *seeds* in a single row, with flat accumbent *cotyledons;* will distinguish this from other genera in the same class and order.

Six species British.

A'RABIS TURRI'TA. Tower Wall-cress. Tower-mustard. Great Turkey-pod.

SPEC. CHAR. Leaves clasping the stem, rather acute, toothed, pubescent. Flower-stalks the length of the calyx, each with a leafy bractea. Pods all on one side, strap-shaped, flat, thick edged, recurved.

Engl. Bot. t. 178.—Hook. Fl. Lond. t. 176.—Jacq. Fl. Aust. t. 11.—Linn. Sp. Pl. 930.—Huds. Fl. Angl. (2nd ed.) p. 293.—Sm. Fl. Brit. v. ii. p. 714. Engl. Fl. v. iii. p. 214.- With. (7th ed.) v. iii. p. 780.—Lindl. Syn. p. 24.—Hook. Brit. Fl. p. 303.—Sibth. Fl. Oxon. p. 205.—Relh. Fl. Cantab. (3rd ed.) p. 270.—Purt. Mid. Fl. v. iii. p. 57.—Hook. Fl. Scot. p. 200.—Walk. Fl. of Oxf. p. 193.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 165.—Curt. Brit. Entomol. v. ii. t. 74!—*Arabis major*, Gray's Nat. Arr. v. ii. p..676.—*Turritis major*, Johnson's Gerarde, p. 272.

Fig. 1. Calyx.—Fig. 2. Calyx and Corolla.—Fig. 3. Germen.—Fig. 4. Stamens.—Fig. 5. A Seed.—Fig. 6. A Seed, with the Testa removed to show the Cotyledons.—Fig. 7. The same a little magnified.

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[*] Originally from *Arabia*, but this name is not very precise, as the species of the genus are found in many parts of the world, in arid, stony, and sandy places, in cold and mild climates. DON.

[†] See *Draba verna*, f. 38, n. †.

[‡] See *Ery'simum cheiranthoides*, f. 62, n. ‡.

[§] See *Draba verna*, f. 38, a.

[||] See *Cardamine pratensis*, f. 141, n. ||.

[¶] From *Arabis*, and *idea*, shape of a thing; plants agreeing with *Arabis* in important characters. DON.

LOCALITIES.—On old walls and stony places. Very rare.—*Oxfordshire;* On the walls of Magdalen College, Oxford: Dr. SIBTHORP (1794), and the Rev. Mr. WHITE, Fellow of Magdalen Coll. 1832. It grew formerly within the Old Quadrangle: Rev. R. WALKER, B. D. On the bank by the side of the Cherwell, opposite to Magdalen Coll.: Rev. Mr. WHITE, 1831. It has for many years been naturalized on the walls of the Oxford Botanic Garden, in a shady place near an old Hot-house: W. B.—*Cambridgeshire;* On Trinity, and St. John's College walls, Cambridge: Rev. R. RELHAN.—SCOTLAND. *Kinross-shire;* On the Castle of Cleish: Mr. ARNOTT.

Biennial.—Flowers in May and June.

Root somewhat woody, tapering, simple. *Stem* from 1 to 3 feet high, upright, simple, round, leafy, and clothed, like the leaves, with fine, short, soft, starry hairs. *Leaves* inversely heart-shaped, broad, toothed, rather acute, but not pointed; those from the root and on the lower part of the stem tapering downwards into *footstalks;* the rest heart-shaped at the base, and clasping the stem; gradually decreasing in size as they approach the top. *Flowers* white or cream-coloured, small, in corymbose *clusters. Flower-stalks (peduncles)* short, each with an oblong, somewhat pointed, bractea at its base, a character very unusual in this order. *Petals* with a spreading border. *Glands,* 2 at the inside of the shorter stamens, and 2 at the outside of the longer. *Style* very short, permanent, with a small, not dilated, *stigma. Pods* very long, flat, smooth, strap-shaped, thickened at the edges, curved downwards as they ripen, chiefly towards one side; their valves slightly undulated, not at all keeled.

The whole plant is of a light green colour; it is a native of Spain, France, Switzerland, Italy, Sicily, and Transylvania, on mountains, in hedges, and coppices. In Britain it is one of our very rarest natives, and may, probably, have escaped originally from gardens. It is said to have been observed by Professor J. MARTYN, before the year 1732, on a wall at Lewisham, in Kent.

Many of the exotic species of this genus, especially the perennial ones, are interesting little plants to the Botanist, and are well adapted for rock work.

———————The fall of kings,
The rage of nations, and the crush of states,
Move not the man, who from the world escaped,
In still retreats, and flowery solitudes,
To NATURE'S VOICE attends, from *month* to *month,*
And *day* to *day,* thro' the revolving year;
Admiring sees her in her every shape,
Feels all her sweet emotions at his heart,
Takes what she lib'ral gives, nor thinks of more.
THOMSON.

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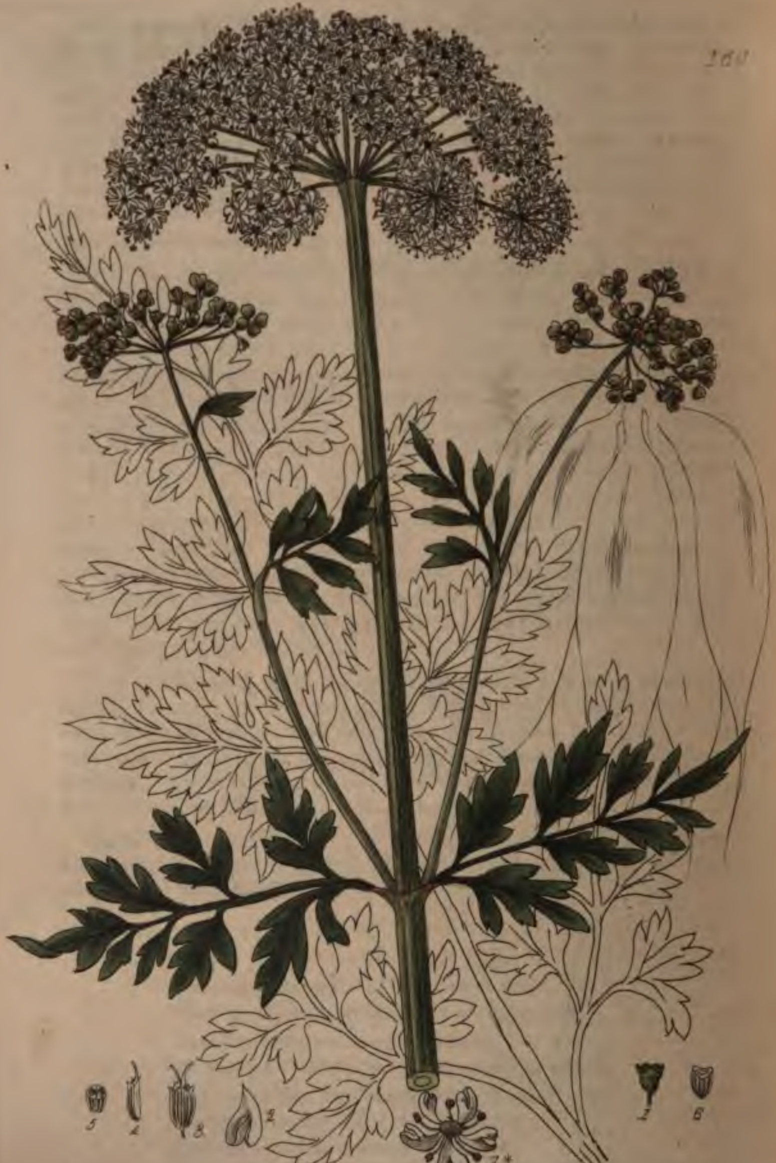

Œnánthe crocáta. Water-Dropwort. ♃

I.B.Del. Pub.d by W. Baxter Botanic Garden Oxford 1835 C.Mathews Sc.

ŒNA'NTHE*.

Linnean Class and Order. PENTA'NDRIA †, DIGY'NIA.

Natural Order. UMBELLI'FERÆ, Juss. Gen. Pl. p. 218.—Sm. Gram. of Bot. p. 132.—Lindl. Syn. p. 111.; Introd. to Nat. Syst. of Bot. p. 4.—Rich. by Macgilliv. p. 463.—Loud. Hort. Brit. p. 517.—UMBELLATÆ, *Linn.*—ROSALES; subord. ANGELICOSÆ; sect. ANGELICINÆ; type, ANGELICACEÆ; subty. ANGELICIDÆ; Burn. Outl. of Bot. pp. 614, 762, 770, 773, & 774.

GEN. CHAR. *Flowers* (fig. 1.*) more or less separated or imperfect, the outermost very irregular and abortive; the innermost smaller, regular, and producing fruit. *Calyx* (see fig. 1.) superior, of 5 large, spear-shaped, acute, somewhat unequal, permanent teeth. *Corolla* (fig. 1.*) of 5, inversely heart-shaped petals (fig 2.), with inflexed points; in the fertile flower nearly equal; in those of the circumference very unequal. *Filaments* (see fig. 1*.) 5, thread-shaped, longer than the corolla. *Anthers* small, roundish. *Germen* (see fig. 1.) inferior, oblong, furrowed. *Styles* (see fig. 3.) awl-shaped, slender, tumid at the base. *Stigmas* small, blunt, recurved. *Fruit* (fig. 3.) oblong, or somewhat egg-shaped, with a spongy or corky bark; crowned with the permanent calyx, and elongated, somewhat spreading styles. *Carpels (seeds* of Linn.*)* (fig. 4.) with 5, blunt, convex *ridges*, of which the lateral ones are marginal and a little broader. *Interstices (channels)* with single *vittæ*. *Seed* taper, convex. *Axis* wanting. *Universal involucrum* various, sometimes wanting; *partial*, many-leaved. *Flowers* white.

The solid, unarmed, oblong, ribbed, somewhat spongy *fruit;* the *carpels* with 5, blunt, convex ridges; the *interstices* with single *vittæ;* the taper, convex *seed;* the 5-toothed permanent *calyx;* and the inversely heart-shaped *petals*, with inflexed points; will distinguish this from other genera in the same class and order.

Five species British.

ŒNA'NTHE CROCA'TA ‡. Hemlock Water-dropwort. Dead Tongue. Five-fingered Root. Water Lovage.

SPEC. CHAR. Knobs of the roots oblong or elliptic, sessile. Stem branched, furrowed. Leaves all bipinnate; leaflets wedge-shaped, deeply toothed. Umbels of many rays; general and partial involucrums of many leaves. Fruit linear-oblong, with slender intermediate ribs, longer than the pedicels. DON.

Engl. Bot. t. 2313.--Hook. Fl. Lond. t. 201.—Woodv. Med. Bot Suppl. t. 267.—Sphephenson's and Churchill's Medical Botany, v. i. t. 35.—Linn. Sp. Pl. p. 365.—Huds. Fl. Angl. (2nd ed.) p. 121.—Sm. Fl. Brit. v. i. p. 319. Engl. Fl. v. ii. p. 70.—With. (7th ed.) v. ii. p. 382.—Gray's Nat. Arr. v. ii. p. 509.—Lindl. Syn. p. 120.—Hook. Brit. Fl. p. 123.—Lightf. Fl. Scot. v. i. p. 162.—Sibth. Fl. Oxon. p. 99.—Hook. Fl. Scot. p. 92.—Grev. Fl. Edin. p. 62.—Thorn-

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Fig. 1. Germen and Calyx.—Fig. 1*. Corolla and Stamens.—Fig. 2. A separate Petal.—Fig. 3. The Fruit, crowned by the Styles.—Fig. 4. A Carpel.—Fig. 5. A transverse section of the Fruit.—Fig. 6. Ditto of a Carpel.—Figs. 1*, 2, & 6, slightly magnified.

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* From *oinos*, Gr. *a vine;* and *anthos*, Gr. *a flower;* alluding to the vinous smell of the flowers. HOOKER.

† See *Anchusa sempervirens*, folio 48, note †.

‡ So called in consequence of the yellow juice which it yields.

ton's Family Herbal, p. 312.—Salisbury's Bot. Companion, v. ii. p. 134.—Fl. Devon. pp. 51 & 167.—Johnst. Fl. of Berw. v. i. p. 69.—Walk. Fl. of Oxf. p. 81.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 303.—Burnett's Outl. of Bot. v. ii. p. 776.—Bab. Fl. Bath. p. 20.—Mack. Catal. of Plants of Irel. p. 29.—*Œnanthe cicutæ faciæ Lobelii*, Ray's Syn. p. 210.—*Filipendula cicutæ faciæ*, Johnson's Gerarde, p. 1059.

LOCALITIES.—In watery places, osier holts, and about the banks of rivers and ponds, in various parts of Britain.

Perennial.—Flowers in June and July.

Root consisting of many fleshy, oblong, somewhat spindle-shaped, sessile knobs or tubers, from 2 to 6 inches long, each terminating in a long, tough fibre. *Stem* upright, from 2 to 5 feet high, much branched, round, furrowed, leafy, hollow. *Leaves* dark shining green, all twice-pinnated, their leaflets generally opposite, more or less stalked, broad, wedge-shaped, deeply toothed, smooth, and veined. *General Umbel* rather large, stalked, of many rays. *Partial Umbels* nearly globular, many-flowered. *Flowers* white, or slightly tinged with purple. *Petals* inversely heart-shaped, pointed, points incurved. *General* and *Partial Involucrums* various in number and shape; sometimes the general involucrum is wanting. *Fruit* oblong, ribbed.

The root, in which the deleterious quality of the plant most powerfully resides, abounds in a yellow-coloured juice, which has an acrid, unpleasant taste, and fœtid smell. The other parts of the plant also yield the same kind of juice, but less plentifully.

This appears to be the most virulent of all our umbelliferous plants. Mr. LIGHTFOOT informs us, that he had heard the late Mr. C. D. EHRET, the celebrated Botanic painter, say, that while he was drawing this plant, the smell or effluvia rendered him so giddy, that he was several times obliged to quit the room, and walk out in the fresh air to recover himself; but recollecting at last what might probably be the cause of his repeated illness, he opened the door and windows of the room, and the free air then enabled him to finish his work without any more returns of his giddiness. If but a small quantity of any part of the plant is admitted into the stomach, it instantly produces the most violent effects; such as convulsions, frequent hiccough, ineffectual retchings, hæmorrhage from the ears, and other violent symptoms, which terminate in death. To counteract its deleterious effects on the human constitution, a quick emetic, (as flour of mustard in warm water,) and venesection, are most effectual. Many cases of the fatal effects of this plant on persons who had eaten of it, are recorded in the works of WOODVILLE, STEPHENSON, and THORNTON, referred to above.

As the plant greatly resembles smallage or celery, both in appearance and smell, the more caution is necessary respecting it, especially as the roots have not any flavour disagreeable enough to deter persons from eating them.

According to the observations of LINNÆUS, sheep eat it; horses and cows refuse it. Sir T. FRANKLAND says, that brood mares sometimes eat the root, and are poisoned by it. In Westmoreland the country people apply a poultice of the herb to the ulcer which forms in the fore part of the cleft of the hoof in horned cattle, which is called the foul. It is conjectured, by some writers, that the poison with which the Athenians took away the lives of malefactors, was an inspissated juice compounded of this and other corrosive herbs. The roots have been used as a bait to poison rats and moles.

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N. B. When *a* follows the number of the folio, it indicates a reference to the second page of that leaf.

CORRECTIONS and ADDITIONS.

Folio 81, line 2, after DECANDRIA insert †.

Folio 91, line 2 from the bottom, *for* Ptarmina *read* Ptarmica; and in the same line, *for* note † *read* note ‡.

Folio 97 a, line 17, *for* castle *read* waste.

Folio 114 a, lines 2 & 3 from the bottom, *for* Mycologinum *read* Mycologicum.

Folio 115 a, lines 31 & 38, *for* Berberides *read* Berberidis.

Folio 139 a, at the bottom of the page, add—*Uredo Petasites*, Grev. Fl. Edin. p. 441, is not uncommon on the under surface of the living leaves of this plant about Oxford, in the Autumn.

KING, PRINTER, ST. CLEMENT'S, OXFORD.